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architectural **forum**

September 1953

Forum forecast: 1954 Another big year for building (p.138)

New thinking on office buildings Why some owners omitting the ground floor?
What has mechanical engineering done to the economics of deep office space?
How are architects changing the face of their buildings with new window treatments? (p.107)

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new ways to expedite large-scale operations (p.164)

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Small buildings Underground bank, modern town hall, remodeled bar (p.158)
and country office building (below and p.124)

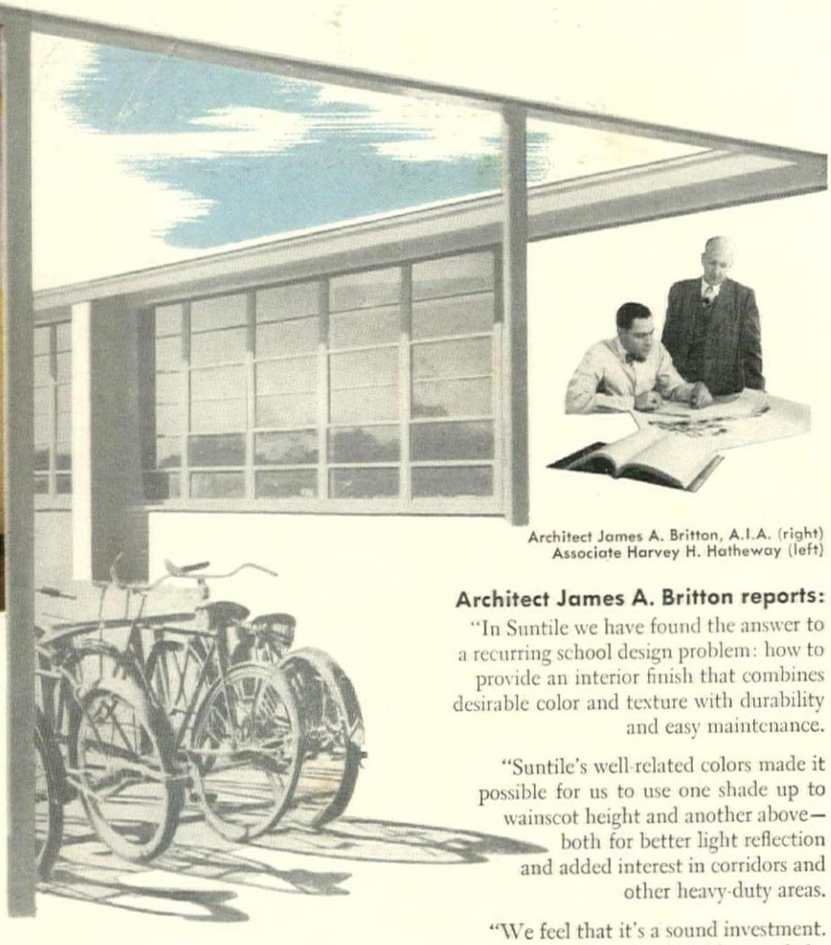


Bright new school theme

FUNCTIONAL COLOR *Suntile*



Suntile Corridor, Highland Elementary School, Westfield, Massachusetts



Architect James A. Britton, A.I.A. (right)
Associate Harvey H. Hatheway (left)

Architect James A. Britton reports:

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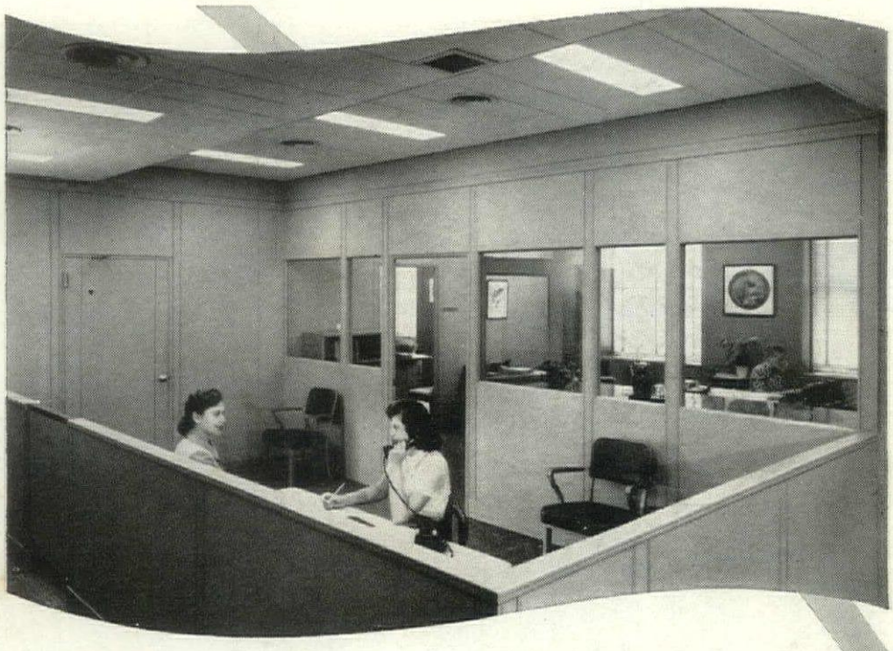


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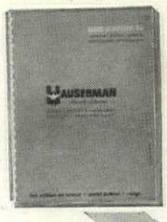
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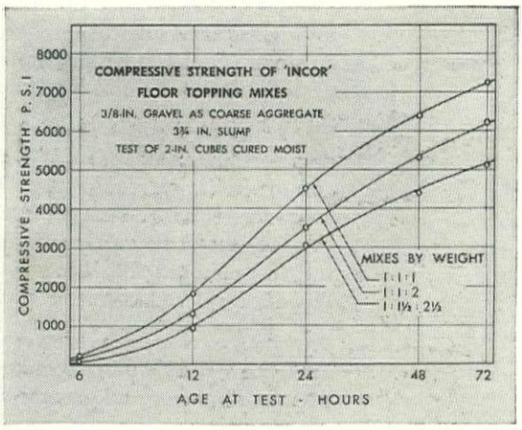
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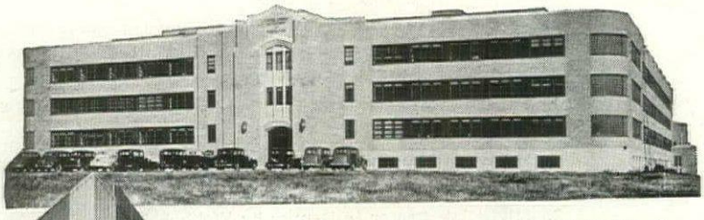
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Cover: Office building near Ridgefield, Conn. Photo: Robert Damora



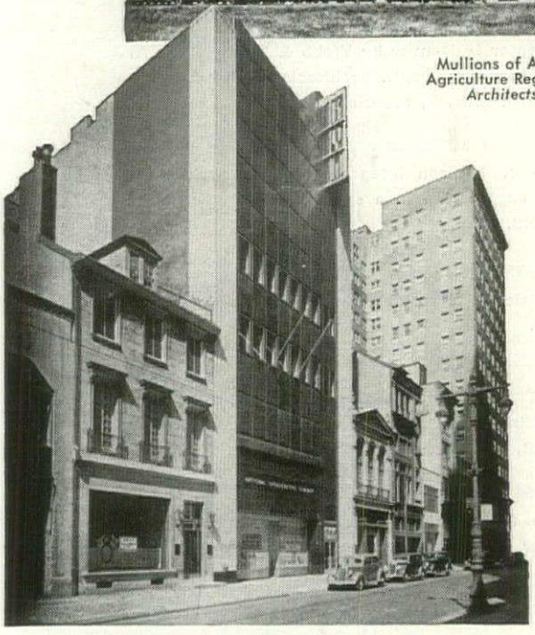
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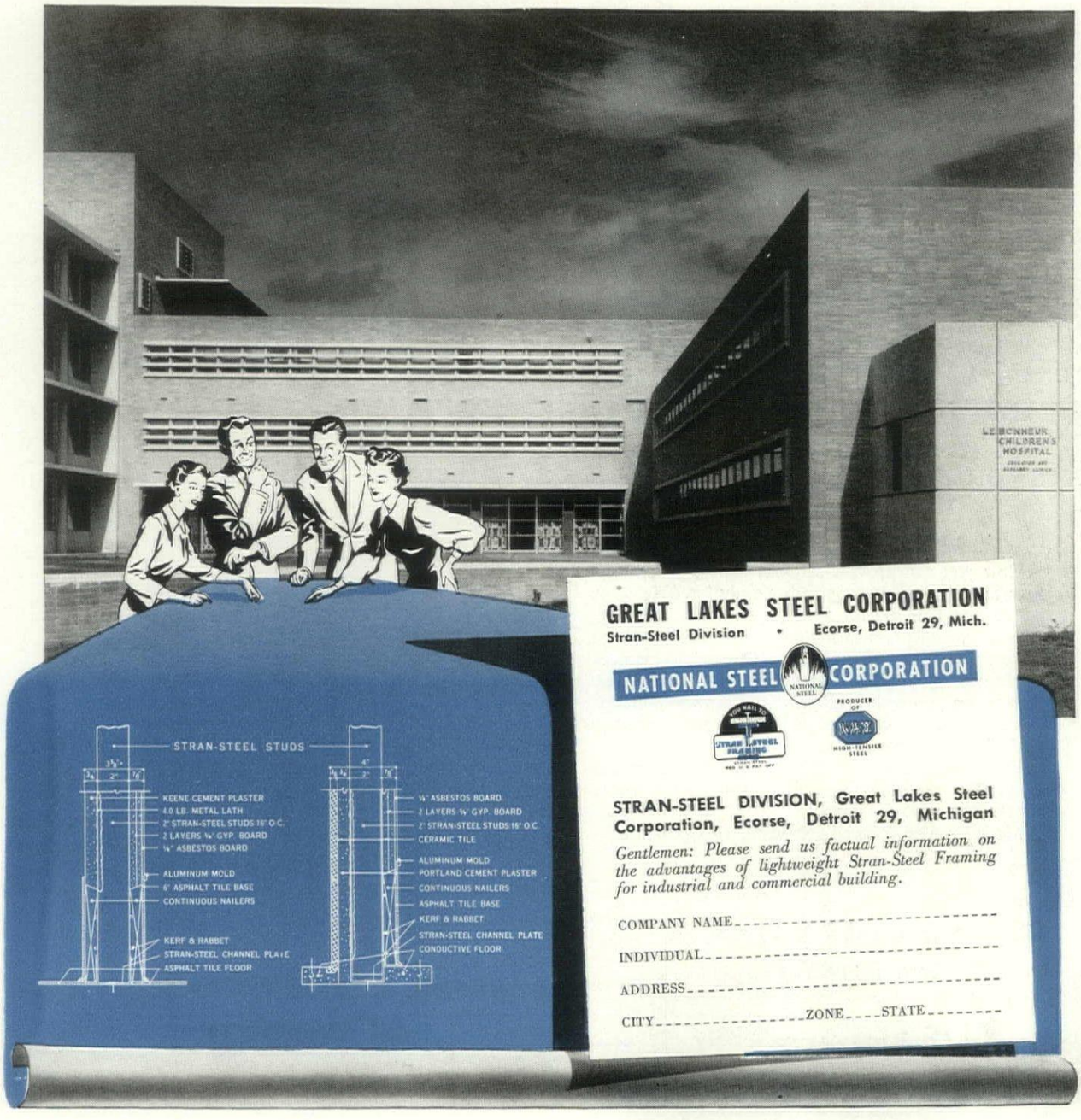
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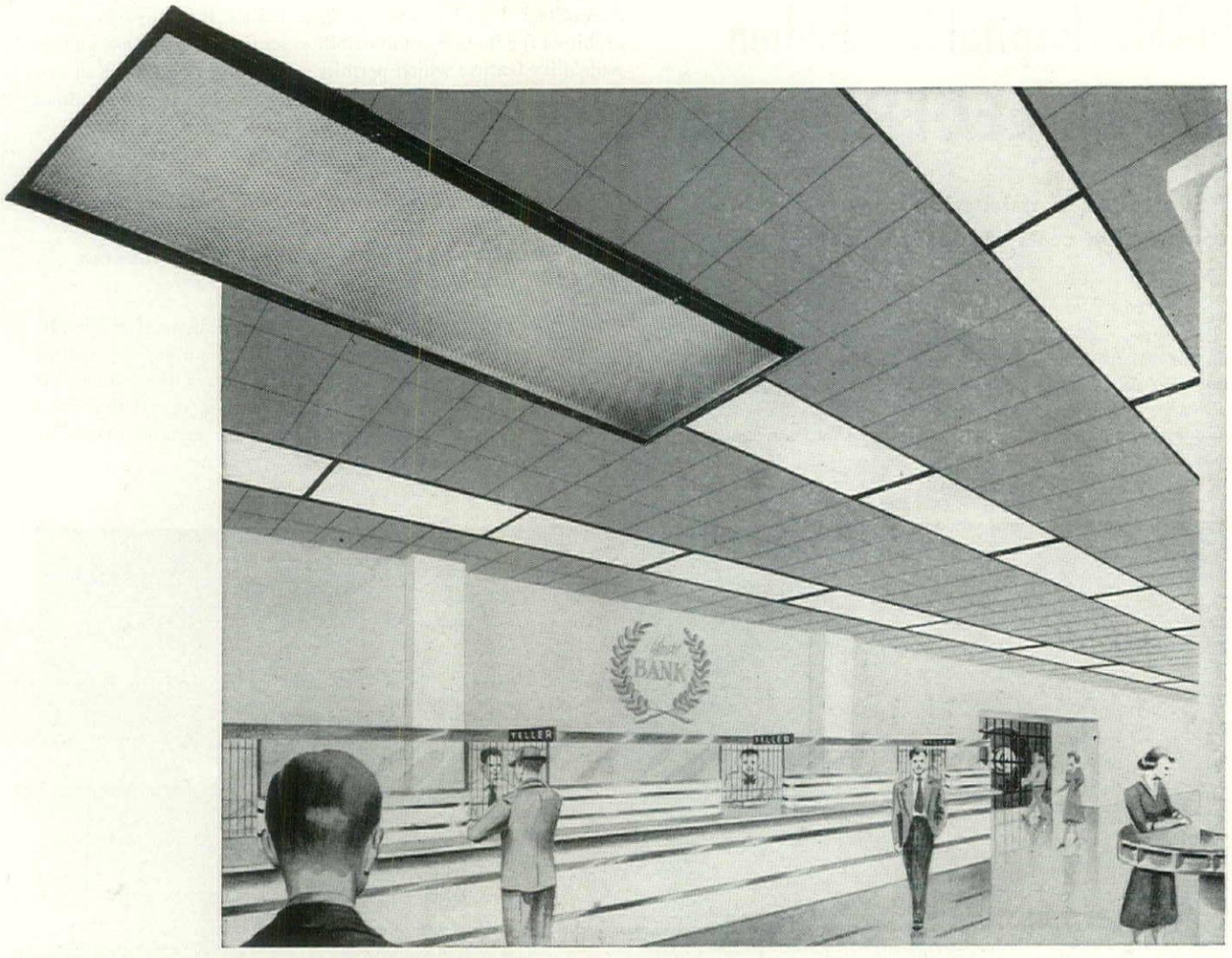
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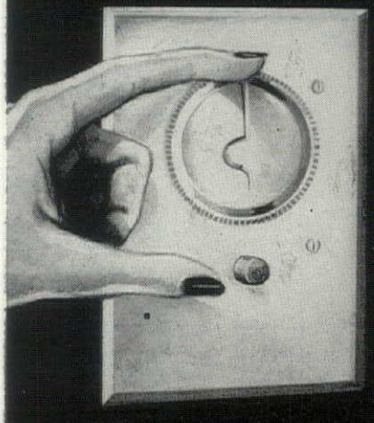
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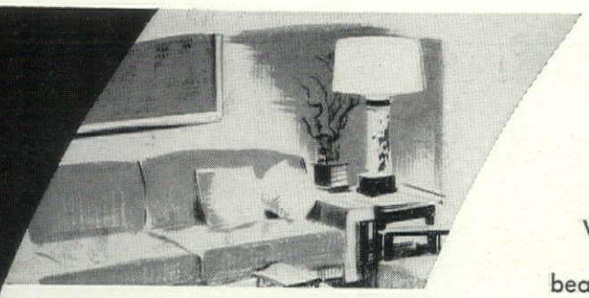
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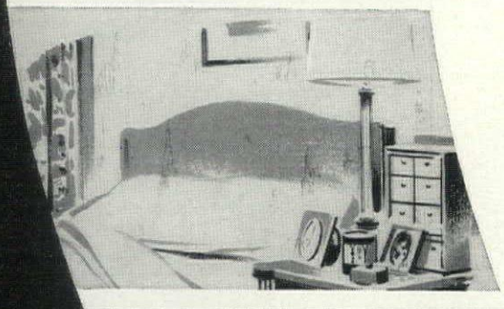


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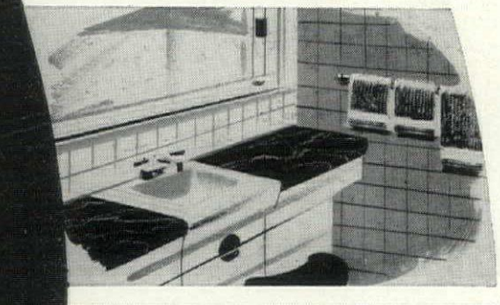
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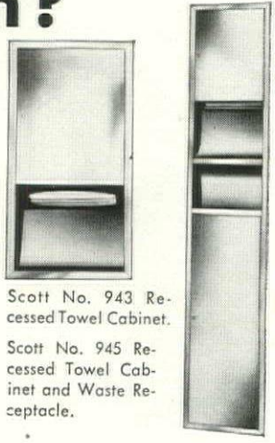
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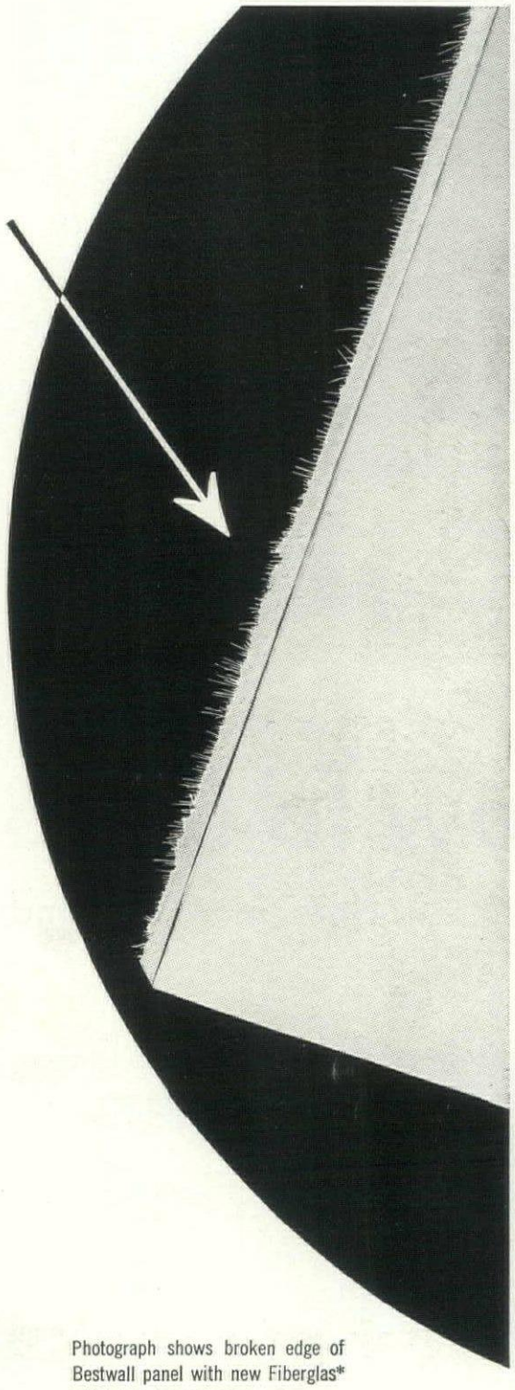
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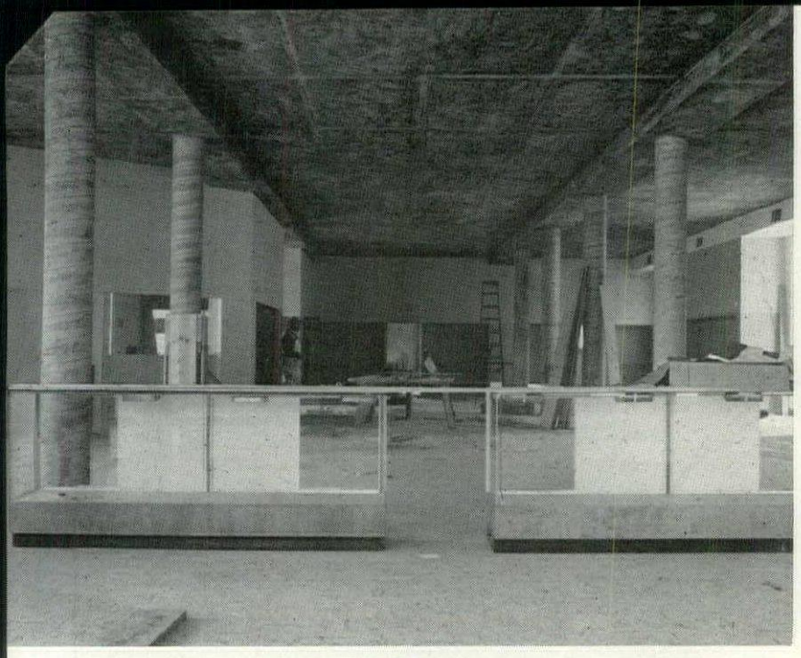
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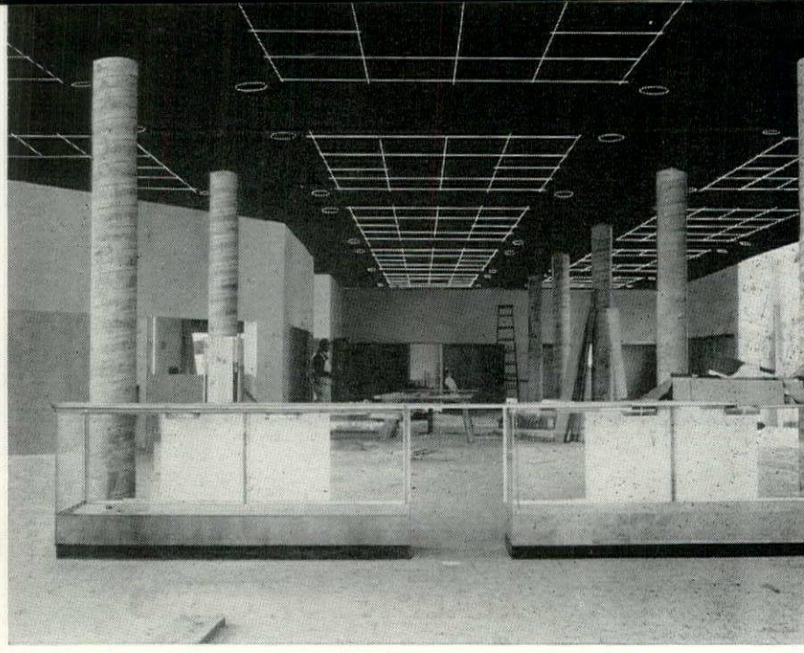
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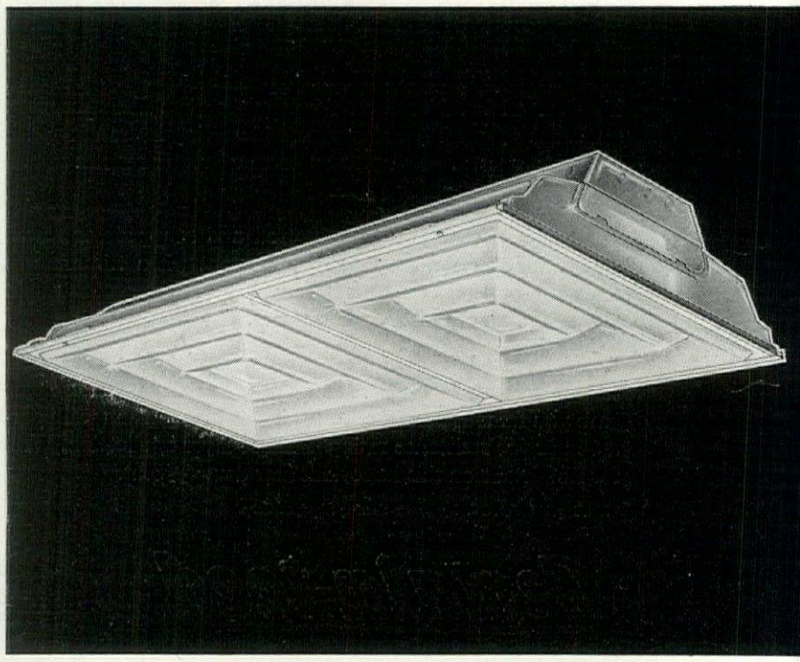
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Here, in words and pictures, are 8 interesting and idea-laden facts



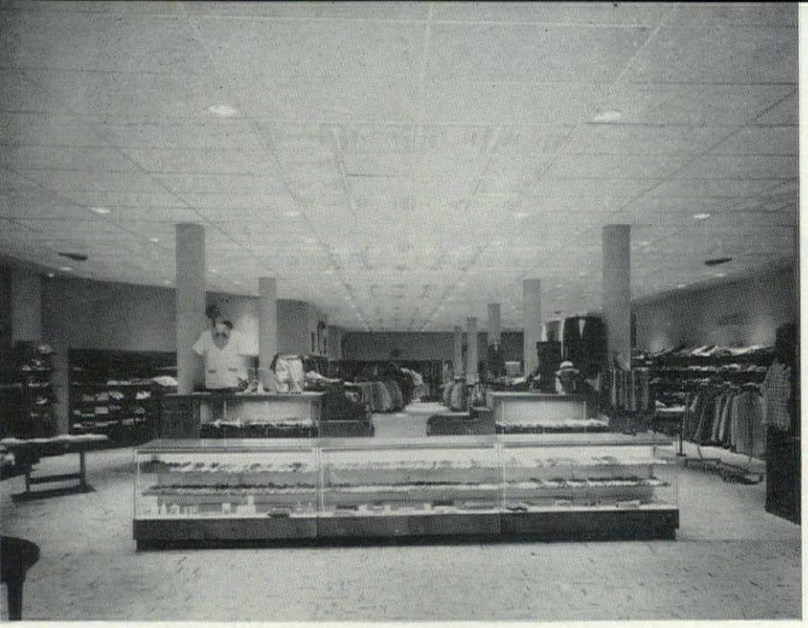


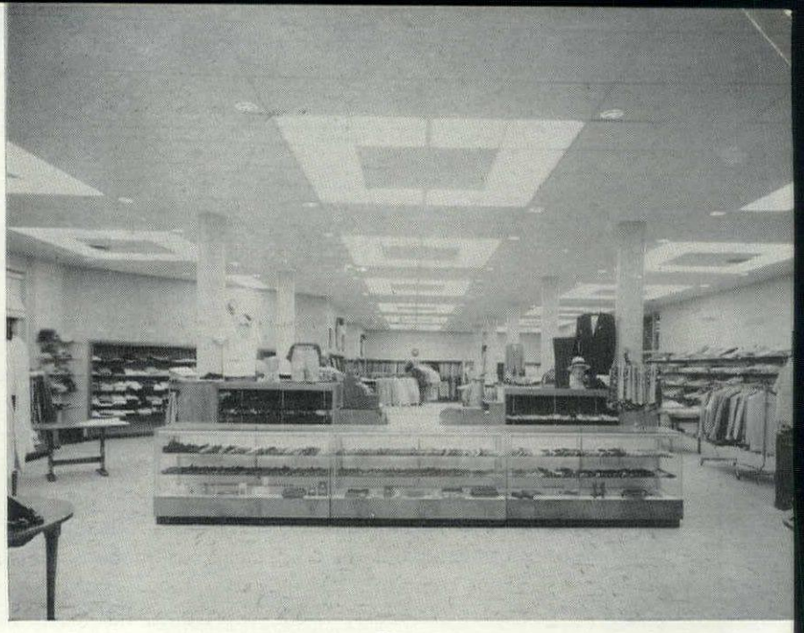
Mr. Meier says. . .

5 Mr. Arthur Meier, manager of Boyd's Clayton store reports: "Using sales as a barometer, I'd say we made a sound investment in our Day-Brite lighting. Especially at night, we're attracting a lot of store traffic. We can and *are* selling men's apparel at night with full assurance that color will not change in daylight conditions."

A close-up of MOBILEX®. . .

6 Recessed lighting system designed for use with the new low cost grid-type ceilings. Also available for conventional ceilings. Glass, louvered or moulded plastic shielding panels. Available in 2′ x 2′ and 2′ x 4′ units, for 2, 3, or 4 lamps. Units may be used singly, end to end, or side by side, and in combination to form patterns.





The "Derbies" go on. . .

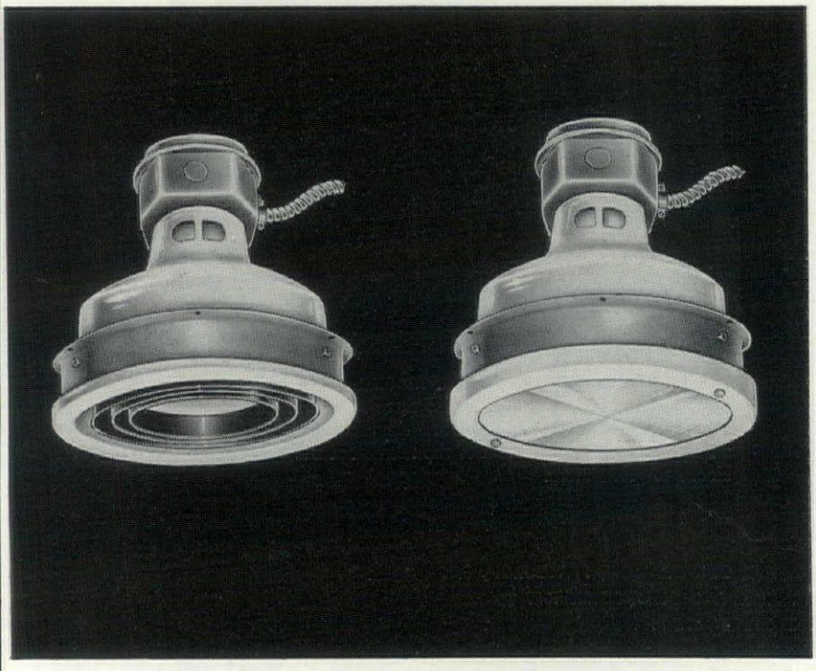
3 Ceiling and lighting installation complete, the Derby Downlights are turned on. "Derbies" alone account for about 20 footcandles of illumination. Warm incandescent light of "Derbies" gives installation sparkle and brilliance. Teamed with MOBILEX, "Derbies" produce color balanced lighting for accurate appraisal.

MOBILEX® goes on. . .

4 A flick of the switch and MOBILEX goes to work. Light meter reading for full installation measures 140 footcandles. Visibility excellent in every corner of store. Comfort extremely good. No glare. No harsh shadows. Recessed MOBILEX leaves ceiling plane smooth, unbroken. Rectangular patterns achieve good design.

economy to produce good lighting

about a new Day-Brite installation in Boyd's Men's Store, Clayton, Mo.



"DECIDEDLY BETTER"
DAY-BRITE®
Lighting Fixtures

Versatile Derby Downlights. . .

7 Inexpensive recessing downlights. Available with removable louver or with 6¾" diameter Holophane Controlens* mounted in removable frame. Special adapter faces available for pin-hole downlighting and other decorative effects. Ideal units for mixing incandescent and fluorescent illumination. UL approved.

*® Holophane Co., Inc.

The Name on the Fixtures. . .

8 The Day-Brite name is more than a promise of value. It's a *guarantee* of the most for your money by the nation's largest exclusive manufacturer of lighting fixtures. For catalog or information, write Day-Brite Lighting, Inc., 5471 Bulwer Ave., St. Louis 7, Mo. In Canada: Amalgamated Electric Corp., Ltd., Toronto 6, Ontario.

"Combines the Esthetic and the Practical . . ."

THIS description aptly fits both the ultra-modern housing project shown here and the U·S·S NATIONAL Steel Pipe used in its construction.

In the recently completed Armstrong Court in Greenwich, Connecticut, NATIONAL Pipe is used not only in the central forced hot water steam plant which heats the huge project but in decorative hand rails and porch railings to carry out the trim, clean cut, modern appearance of the structure.

For over 60 years, U·S·S NATIONAL has been the standard pipe for conventional hot water and steam heating systems, fire control, and plumbing lines. And today it is the first choice, too, for modern radiant heating and snow melting installations. Long experience, the result of thousands of varied applications, has proved to architects that they can put their full confidence in the uniform, dependable, trouble-free performance of NATIONAL Pipe.

Whenever you plan your installation, regardless of the type of service called for, plan on using U·S·S NATIONAL Steel Pipe. Large or small, simple or complex, NATIONAL can fill your every pipe need.

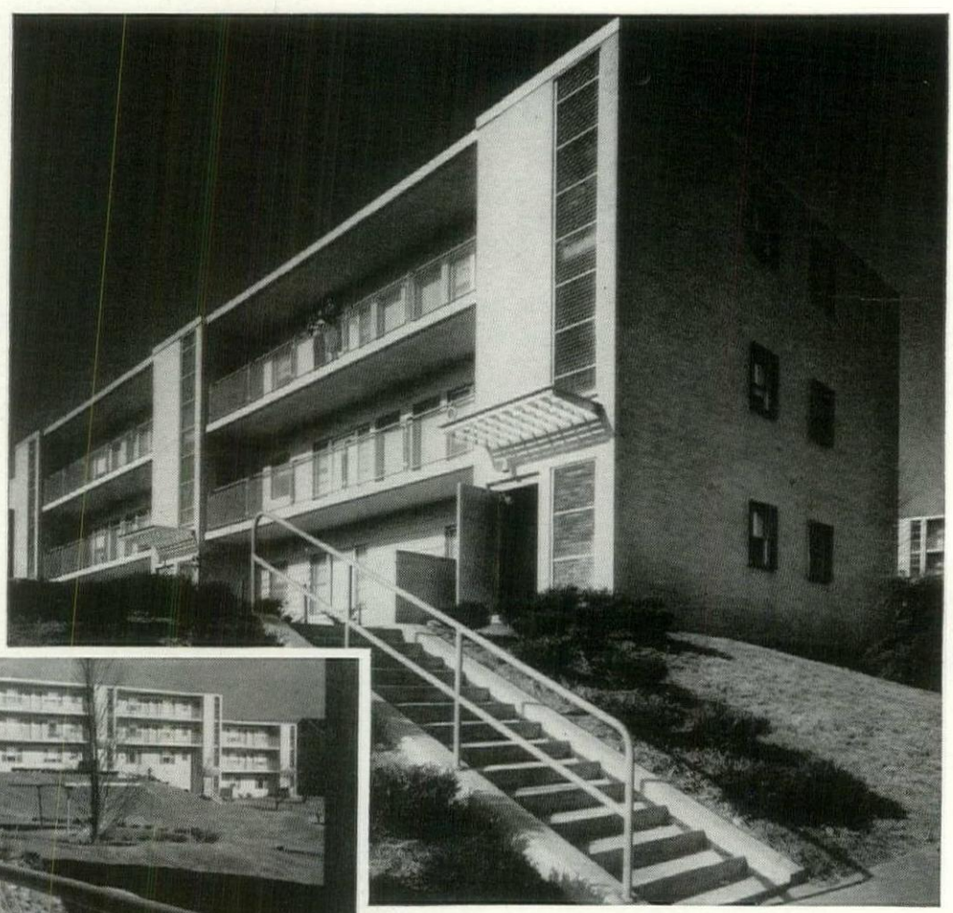
Armstrong Court—Dramatic design in light gray brick.

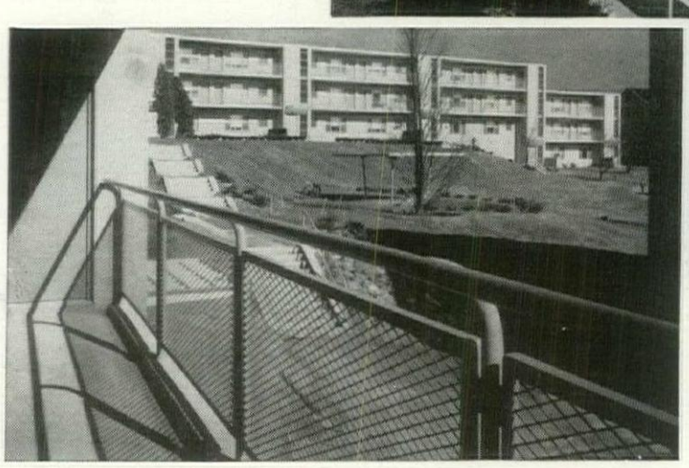
Architect: Holden, McLaughlin and Associates.

Associate Architect: Joseph G. Weir

General Contractor: Frouge Construction Company

Engineering Firm: Winfield S. Bondy





THE STURDY, HANDSOME NATIONAL PIPE porch railings carry out the modern motif of the three-story structures. These different-level buildings are cleverly disposed on a hilly site to make the most of the relation of the various blocks to green areas.

NATIONAL TUBE DIVISION, UNITED STATES STEEL CORPORATION, PITTSBURGH, PA.
COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO, PACIFIC COAST DISTRIBUTORS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

U·S·S NATIONAL Steel PIPE

UNITED STATES STEEL

NO GERIATRICS PROBLEM HERE

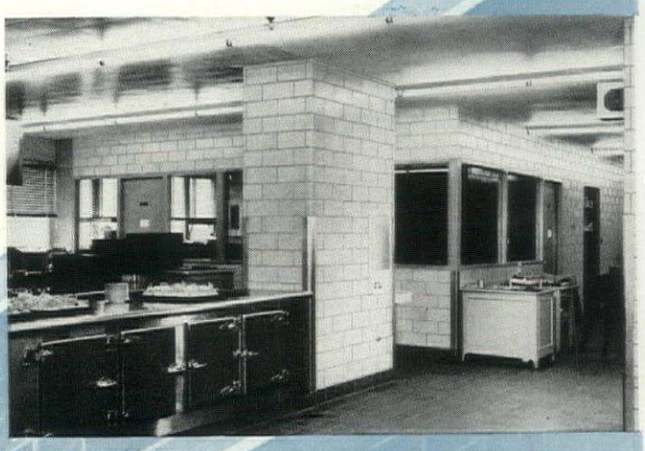
Interiors of **Facing Tile** will help to keep this hospital young and beautiful

"Give us the *right* environment—and make it last!" This is what most hospital clients are asking for today—as an antidote to ever-increasing operating costs. And it's just what they'll get when you specify interiors of Facing Tile.

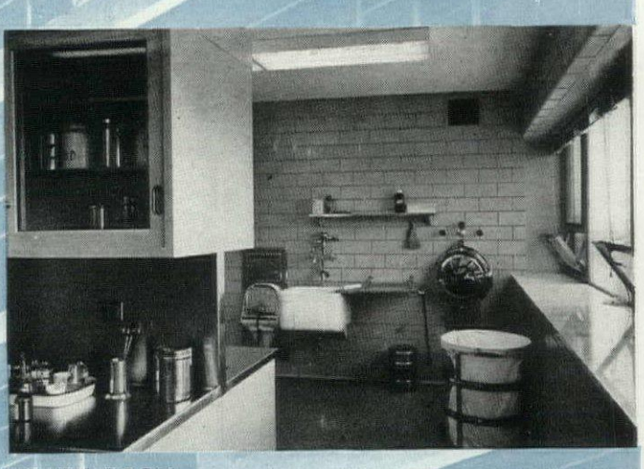
Facing Tile assures an environment that will be helpful to both patients and staff. Its range of scientifically-developed colors permits you to choose combinations which will do most to aid vision and lighting and boost morale.

Facing Tile reduces the long-term maintenance costs which can undermine a good medical program. Its durable surface stands up under heavy hospital traffic—never needs refinishing. And it washes so easily that the highest standards of cleanliness can be met with a minimum staff.

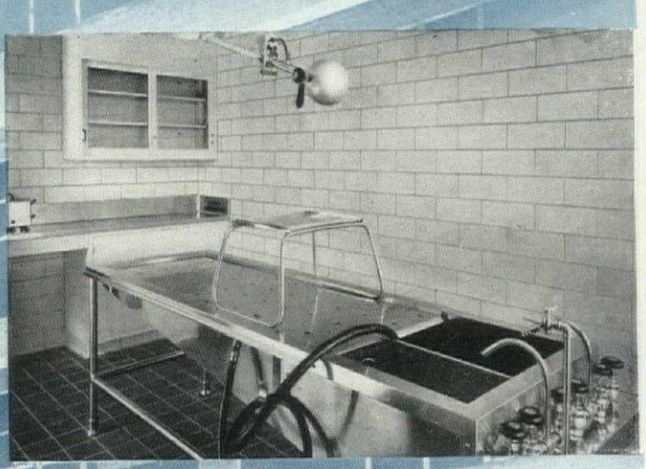
For full data on Facing Tile, glazed or unglazed, just write or call our New York or Washington offices.



MAIN KITCHEN



UTILITY ROOM



AUTOPSY ROOM photo courtesy of S. Blickman, Inc.

LOOK FOR THIS SEAL

FTI — Quality Facing Tile — Member of Facing Tile Institute

Used only by the members of the Facing Tile Institute, it is your assurance of highest quality. In the interest of better Facing Tile construction these companies have contributed to the preparation of this advertisement.

CHARLESTON CLAY PRODUCTS CO.
Charleston 22, West Virginia

THE CLAYCRAFT CO.
Columbus 16, Ohio

HANLEY CO.
New York 17, New York

HYDRAULIC PRESS BRICK CO.
Indianapolis, Indiana

MAPLETON CLAY PRODUCTS CO.
Canton, Ohio

METROPOLITAN BRICK, INC.
Canton 2, Ohio

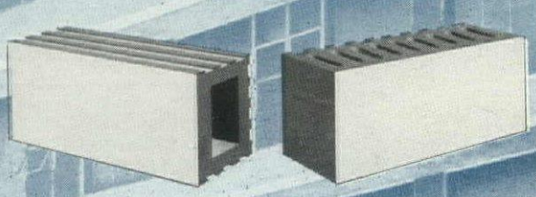
McNEES-KITTANNING CO.
Kittanning, Pennsylvania

NATCO CORPORATION
Pittsburgh 22, Pennsylvania

STARK CERAMICS, INC.
Canton 1, Ohio

WEST VIRGINIA BRICK CO.
Charleston 24, West Virginia

Three typical installations of Structural Facing Tile in the handsome, new 200-bed Greenwich, Connecticut Hospital. Skidmore, Owings and Merrill, Architects. Geo. A. Fuller Company, General Contractors



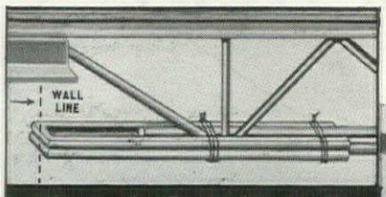
FACING TILE INSTITUTE

1949 Grand Central Terminal, New York 17, N. Y.

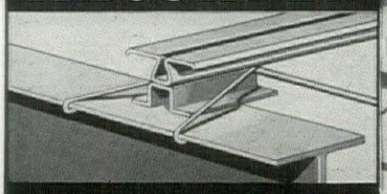
1520 18th Street, N. W., Washington 6, D. C.

IT'S FACING TILE . . . *No other single building material gives you so much for so little!*

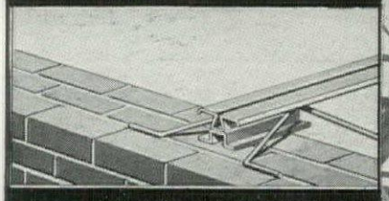
ONLY A PRODUCT can write its own success story for an ENGINEER



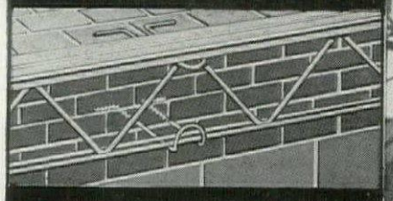
MACOMBER



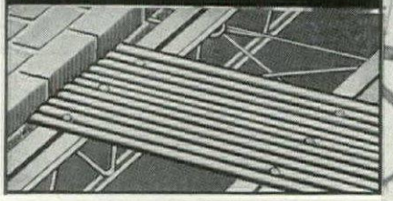
NAILABLE STEEL



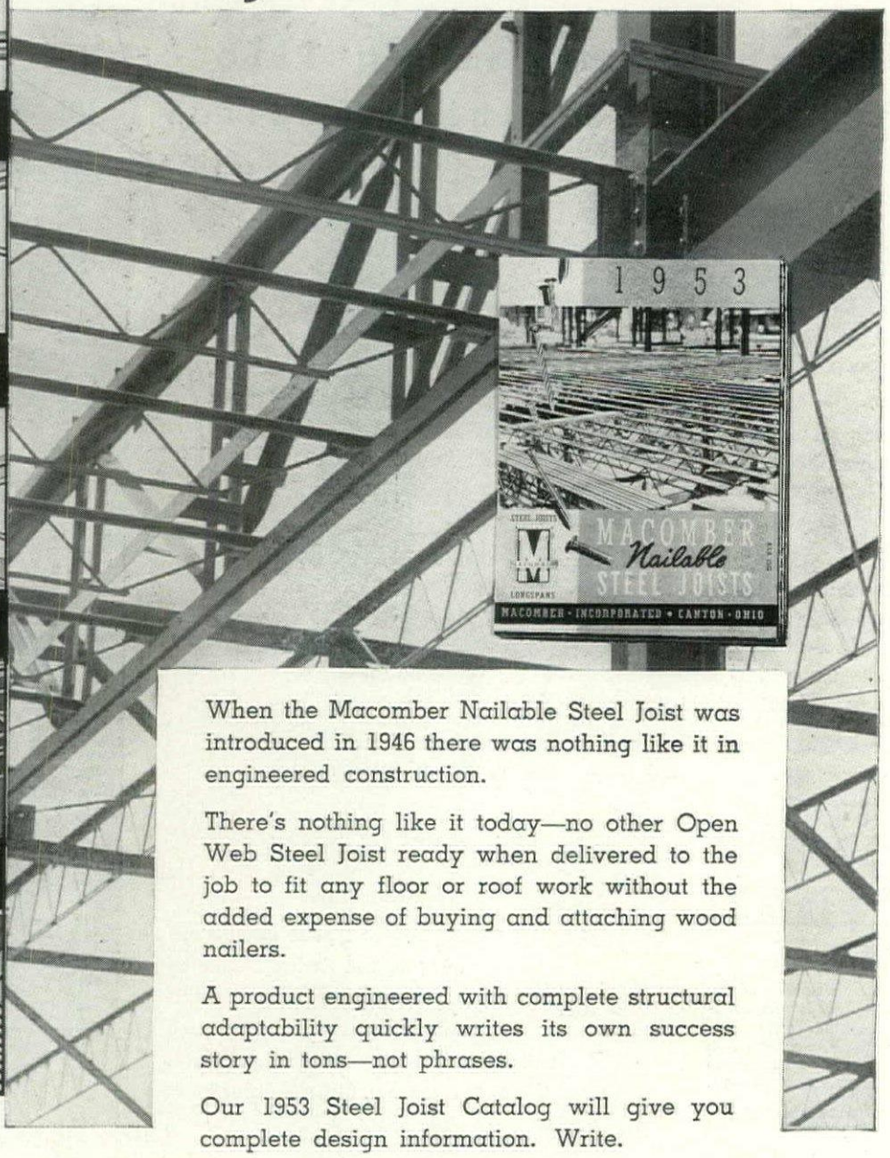
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AND PURLINS



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When the Macomber Nailable Steel Joist was introduced in 1946 there was nothing like it in engineered construction.

There's nothing like it today—no other Open Web Steel Joist ready when delivered to the job to fit any floor or roof work without the added expense of buying and attaching wood nailers.

A product engineered with complete structural adaptability quickly writes its own success story in tons—not phrases.

Our 1953 Steel Joist Catalog will give you complete design information. Write.

ORIGINATORS OF THE **OPEN WEB STEEL JOIST**

SERVICE IN STEEL · STANDARDIZED · CONSTRUCTION · MACOMBER · CANTON, OHIO

STANDARDIZED STEEL BUILDING PRODUCTS

V BAR JOISTS • LONGSPANS STEEL TRUSSES • STEEL DECK

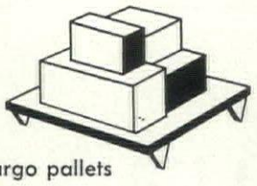
MACOMBER INCORPORATED

CANTON 1, OHIO

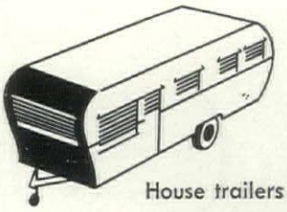
• ENGINEERING • FABRICATING AND ERECTING •

THE DOUGLAS AIRCRAFT COMPANY
ANNOUNCES

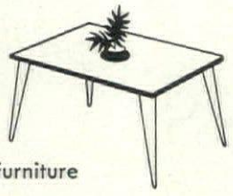
a remarkable new structural material...



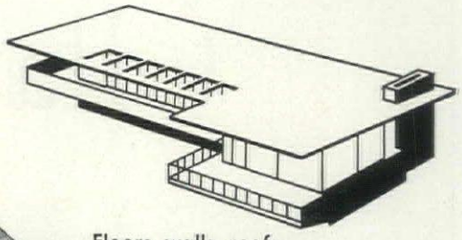
Cargo pallets



House trailers



Furniture

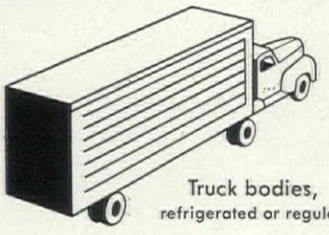


Floors, walls, roofs



AIRCOMB
TRADE MARK

Walk-in refrigerators



Truck bodies,
refrigerated or regular



Building panels for
partitions, etc.

What it is:
AIRCOMB is a honeycomb structure of Kraft paper impregnated with a phenolic resin. In use it is sandwiched between faces of thin material such as aluminum, wood, plywood, stainless steel or magnesium. It is shipped pre-cut in any thickness from 1/16" to 5".

Characteristics:
Properly panelled, AIRCOMB is the strongest material in relation to weight now being manufactured.

It is 16 times as rigid as an equal weight of steel.

It is durable, fire-resistant and pest-resistant.

It has excellent insulation and soundproofing properties.

- Engineering advice on how to adapt this superior structural material to your needs is available.



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AIRCOMB section, Douglas Aircraft Company, Inc., Dept. L-1
3000 Ocean Park Boulevard, Santa Monica, California
Please send descriptive brochure and a sample of AIRCOMB.

Name_____

Company_____

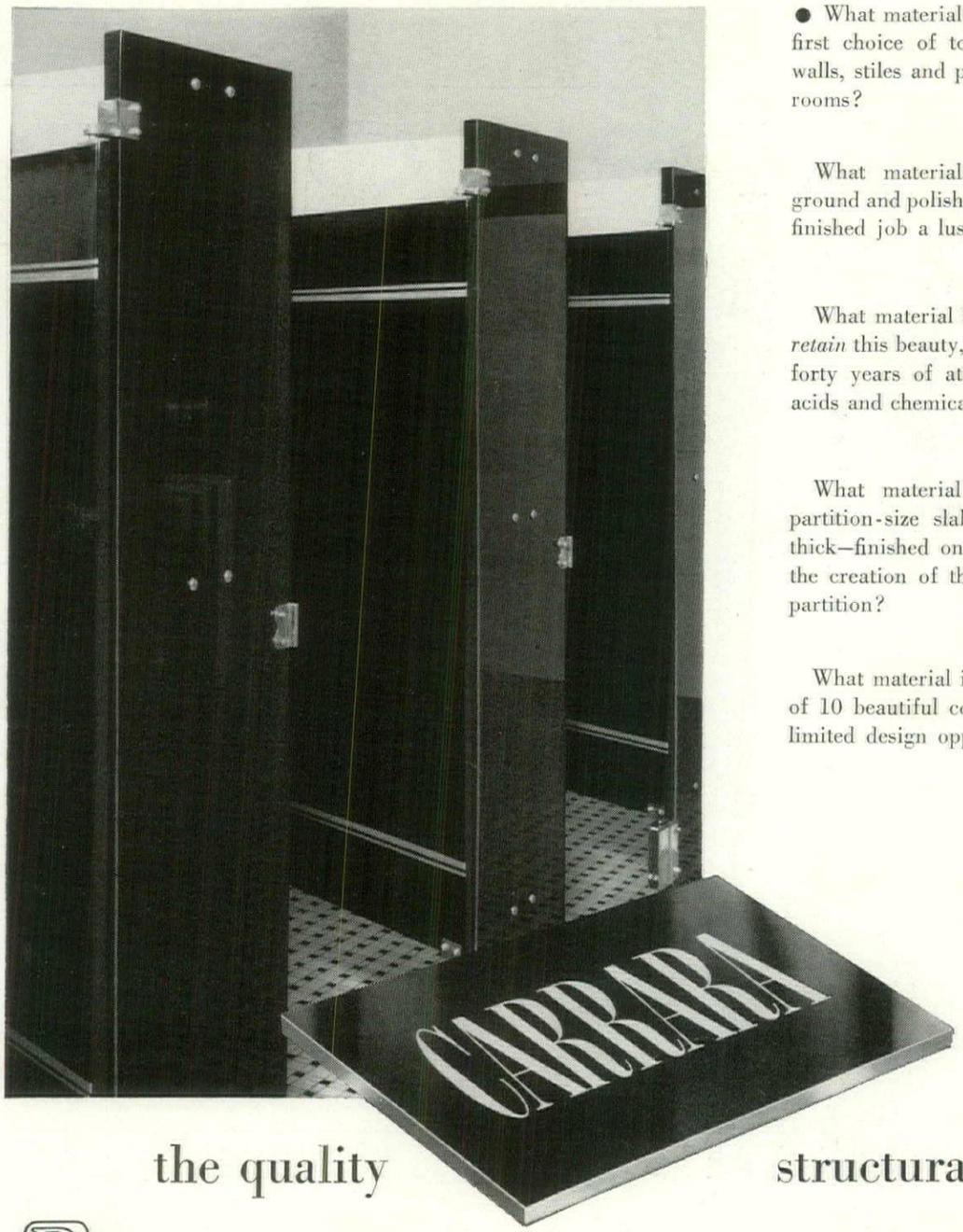
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City_____ Zone____ State_____

Carrara Glass

—preferred by architects for toilet rooms in America's finest buildings



● What material has been for 40 years first choice of top-flight architects for walls, stiles and partitions in fine washrooms?

CARRARA GLASS.

What material has a mechanically ground and polished surface, giving your finished job a lustrous, unique beauty?

CARRARA GLASS.

What material has proved that it can *retain* this beauty, unchanged, even after forty years of attack by steam, water, acids and chemicals?

CARRARA GLASS.

What material is manufactured in partition-size slabs, up to 1¼ inches thick—finished on both sides—to permit the creation of the finest type of toilet partition?

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What material is available in a range of 10 beautiful colors, to give you unlimited design opportunities?

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the quality structural glass

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RUST-OLEUM®

Apply Directly Over Sound Rusted Surfaces



Just scrape and wirebrush to remove rust scale and loose particles — then brush Rust-Oleum 769 Damp-Proof Red Primer *directly over sound rusted surface.*

Lasts Longer Applied Directly Over Rust

Sandblasting, chemical pre-cleaning and other costly preparation methods are *not* usually required. Rust-Oleum penetrates the rust to bare metal, incorporating the rust particles into the coating.

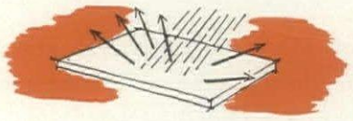


Many Colors, Including Aluminum, and White

Rust-Oleum finish coatings incorporate the same basic rust-inhibiting vehicle as Rust-Oleum 769 Damp-Proof Red Primer. They provide *double protection* and enable you to *beautify as you protect.*



Practical Answer to Your Rust-Producing Conditions



Rust-Oleum resists rain, snow, heat, fumes, sun, salt water, and chemicals. So easy to use by brush, dip, or spray that one man often does the work of *two.*

Proved Throughout Industry for Over 25 Years



Indoors and out, Rust-Oleum has *proved* its capacity to stop rust! Rust-Oleum can do the same for your tanks, metal sash, stacks, girders, roofs, buildings, machinery, pipes, etc.

An Exclusive Formula

Rust-Oleum is *distinctive* as your fingerprint. It incorporates a specially-processed fish oil vehicle that *dries,* is *odor-free,* and is formulated in *many colors.* Specify Rust-Oleum — accept no substitutes.



There Is Only One Rust-Oleum



RUST-OLEUM

STOPS RUST!

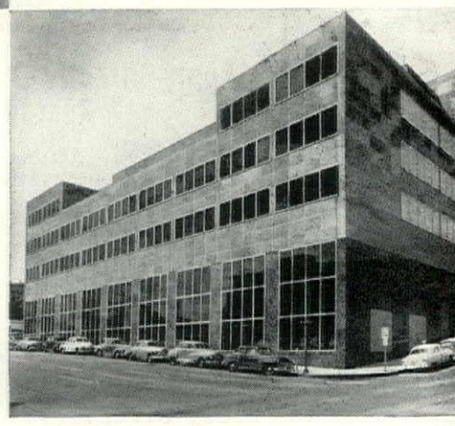
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- ☐ Free Survey
- ☐ Complete Literature
- ☐ Nearest Rust-Oleum Industrial Distributor



Several thermostats, strategically placed, are required to give proper temperature control in the Oregonian's large combination office and lobby area. Honeywell Customized Temperature Control keeps the comfort level just right in all areas, all the time.



Story of Honeywell Customized Temperature Control helps you

Learn about your business– from a publishing plant

Why a customized temperature control system is becoming a "must" for all types of buildings

How do you provide for real comfort if your building is large, has huge areas of glass and is exposed to the elements in all four directions?

And especially, how do you answer this question when your building accommodates such a variety of rooms as offices, press rooms, composing rooms?

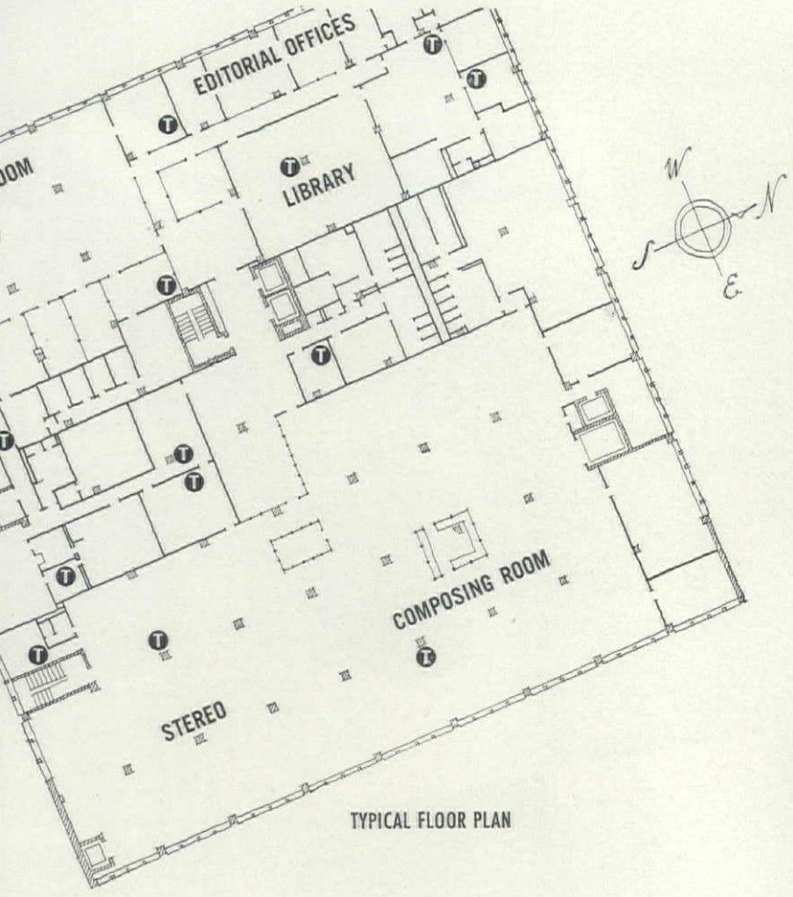
For that matter, how can you be certain temperature control equipment will stand up under 24-hour operation and give the dependable service you can't afford to get along without?

With modification, these major questions which Oregonian officials in Portland, Oregon, and their professional advisers had to answer, can be applied to the businesses of your clients. The answer can be stated in five words: Install Honeywell Customized Temperature Control. This is the answer officials of the Oregonian Publishing Company have found eminently satisfactory. It is the answer for your clients, too.

Key reason why this is so is found in the word *customized.* This means that whatever the control requirements of the building, Honeywell Customized Temperature Control *designed to meet the needs of the building* is your solution. This applies to heating and cooling, ventilation and humidity control.

The customized installation in the case of the Oregonian included careful selection and strategic placement of thermostats as indicated on the floor plan.

Specific problems solved by the Honeywell Customized Temperature Control installation are brought out in the photo captions.



TYPICAL FLOOR PLAN

For comfortable, even temperature in new or existing buildings—of any size—use Honeywell Customized Temperature Control

Whether it's an office, airport, hospital, apartment, church, school, factory, store, garage—or any size building—new or existing, Honeywell Customized Temperature Control can help meet your clients' heating, ventilating, air conditioning and industrial control problems.

Once equipped with Honeywell Customized Temperature Control, they'll have an ideal indoor "climate"—and save fuel besides.

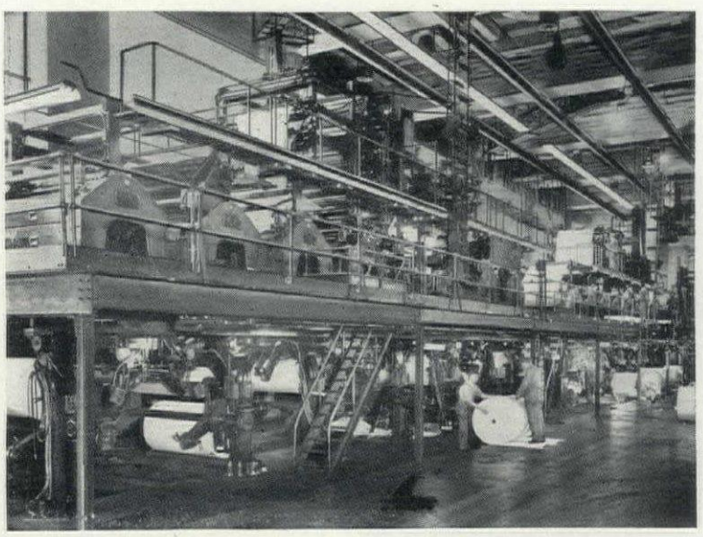
For full facts on Honeywell Customized Temperature Control, call your local Honeywell office. There are 104 across the nation. Or mail the coupon today.

Architect of the Oregonian Building was Pietro Belluschi.
Mechanical Engineering was by J. Donald Kroeker and Associates.

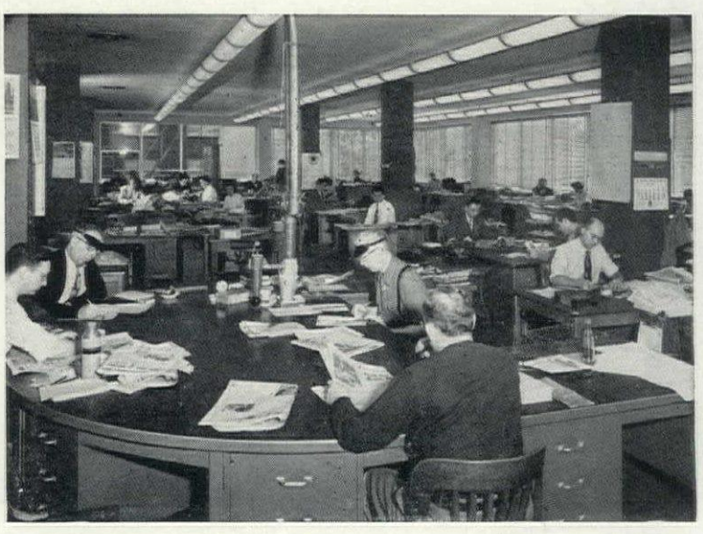


M. J. Frey, publisher of the Oregonian, says:

"Because of our complex comfort problem we have 110 separate temperature controls in the building. All of these are Honeywell controls. And they all perform in a completely satisfactory manner."



Additional thermostats are necessary in the press room to compensate for heat from the presses themselves—and for solar heat entering through the big windows. Press room employee comfort is also well-guarded by Honeywell Customized Temperature Control.



The comfort problem in the editorial room is quite different. Workers at desks are much less active than press room employees, require a somewhat higher temperature. Loss (or intake) of heat from row of large windows must also be compensated for. But with Honeywell Customized Temperature Control on the job, these problems are easily met—and it's comfortable all the time.

MINNEAPOLIS
Honeywell

H HONEYWELL

First in Controls

MINNEAPOLIS-HONEYWELL REGULATOR CO.
Dept. MB-9-177, Minneapolis 8, Minnesota
Gentlemen:
I'm interested in learning more about Honeywell Customized Temperature Control.

Name .....

Firm Name .....

Address .....

City ..... *Zone* ..... *State* .....





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MA·TI·CO PRODUCTS

Guaranteed by Good Housekeeping

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CONSIDER MATICO... IT'S FORTIFIED WITH PLASTIC

Add up all the proved advantages of asphalt tile — low initial cost... low installation and maintenance costs... its performances in on-grade slab construction projects... fine, rich colors... toughness... resiliency... and long wear.

Then add POLYSTYRENE PLASTIC—and you've got a budget flooring that's hard to beat! For this plastic content assures bright, clear colors... more constant uniformity of shade... and years of wear.

Wonder of it all is that MATICO costs no more than ordinary asphalt tile flooring... yet is far superior. Find out today why leading architects everywhere prefer FORTIFIED MATICO asphalt tile flooring. Write for full details, and specification data.

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Joliet, Ill. • Long Beach, Calif. • Newburgh, N. Y.

MASTIC TILE CORPORATION OF AMERICA
Dept. 6-9, P. O. Box 986
Newburgh, N. Y.

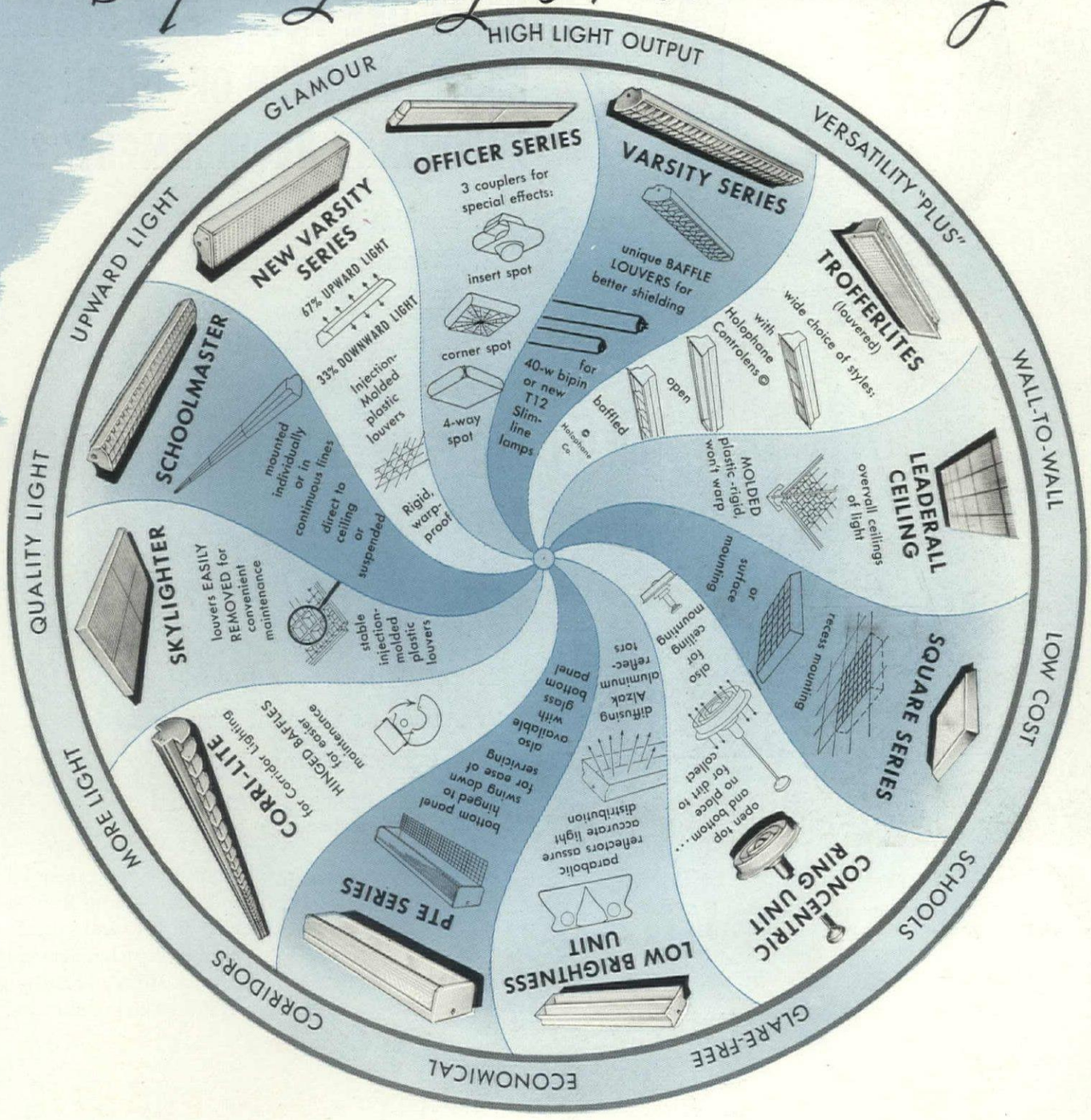
Please send me specification data, color chart, and full details on MATICO asphalt tile.

Name.....

Address.....

City..... Zone ..... State.....

the Benjamin Leader Line...First in Versatility



Nothing is left to chance or compromise when you choose from the Benjamin Leader Line "Wheel of Versatility." One look at the wide range of fixtures and features tells why the Benjamin Leader Line is FIRST in Versatility, no matter what your basis for selecting lighting equipment. Be it first cost or economical upkeep...lighting for effect or high footcandle levels...whether you're trying to match existing architectural treatment or striving to achieve a new, modern decor...Benjamin Leader Line VERSATILITY enables you to find exactly the lighting unit you need. FREE Catalog Data Sheets contain complete details.

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Benjamin Electric Mfg. Co., Leader Division, Dept. YY, Des Plaines, Illinois, also makers of famous Benjamin lighting equipment and sound signals for Industry, Institutions and Commerce.

Question:

WHAT ONE ROOF DECK SYSTEM CAN MEET ALL FOUR OF THESE IMPORTANT REQUIREMENTS?

1. Insulation
2. Weather Protection
3. Fireproofing
4. Sound-Conditioning

Answer:

GOLD BOND POURED-IN-PLACE GYPSUM ROOF DECK...

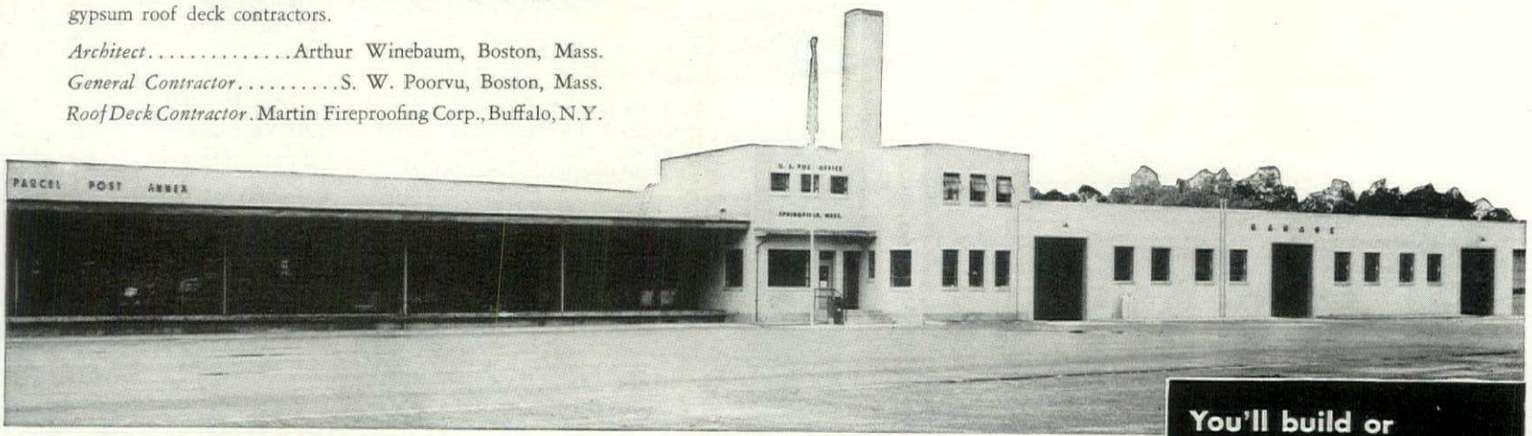
By varying Gold Bond Formboard specifications, as follows:

1. Insulation Formboard
2. Asbestos Cement Formboard
3. Gypsum Formboard
4. Econacoustic Formboard

It's the most versatile, adaptable roof deck you can specify. In addition, Gold Bond Poured-in-Place Gypsum Roof Deck is 66% lighter than concrete, reduces dead load and supporting structure costs. It has high load-bearing capacity, durability and requires a minimum of maintenance. Write our Architectural Service Department for detailed drawings and load tables.

The Parcel Post Annex Garage and Terminal in Springfield, Mass. had two basic requirements (1) Insulation over the office, garage and storage areas, and (2) Weather Protection for the overhang over the loading ramp. Gold Bond Insulation Formboard for (1) and Gold Bond Asbestos Cement Formboard for (2) fulfilled every requirement. Gold Bond Gypsum Roof Decks are installed only by approved gypsum roof deck contractors.

Architect.....Arthur Winebaum, Boston, Mass.
General Contractor.....S. W. Poorvu, Boston, Mass.
Roof Deck Contractor. Martin Fireproofing Corp., Buffalo, N.Y.



NATIONAL GYPSUM COMPANY • BUFFALO 2, NEW YORK

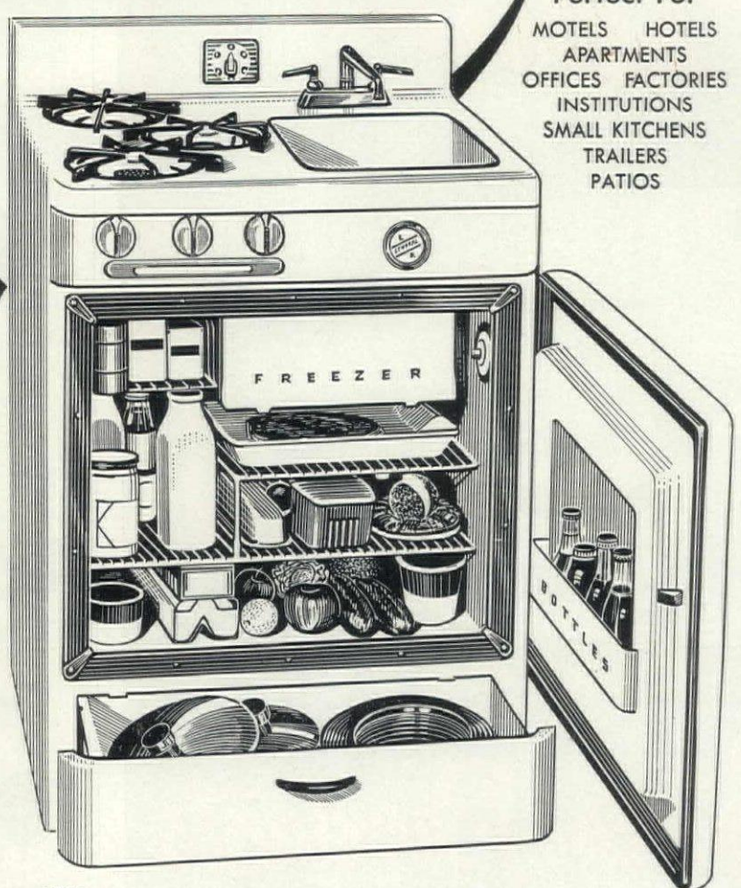
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General Chef complete kitchen units fit in 5.4 square feet.
The ideal solution wherever space and dollars are important.

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BURNERS Units come with 3 gas burners (easily adjusted for bottled, natural or manufactured [L. P.] gas), or 3 electric burners (220 V.) or 2 (110 V.).

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FREEZER Holds 9 ice cube trays, or 12 standard frozen food packages.

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Every General Chef Unit is guaranteed in writing to give trouble-free service for 5 years!

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WRITE for complete information and specifications if you are building, remodeling, designing — you will be interested in the space and money you can save with General Chef units. Several models are available. Fully guaranteed. WRITE TODAY for complete information and specifications on all General Chef units. We will also send you name and address of distributor nearest you.



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Please send me complete information and specifications on General Chef units, and name of nearest distributor.

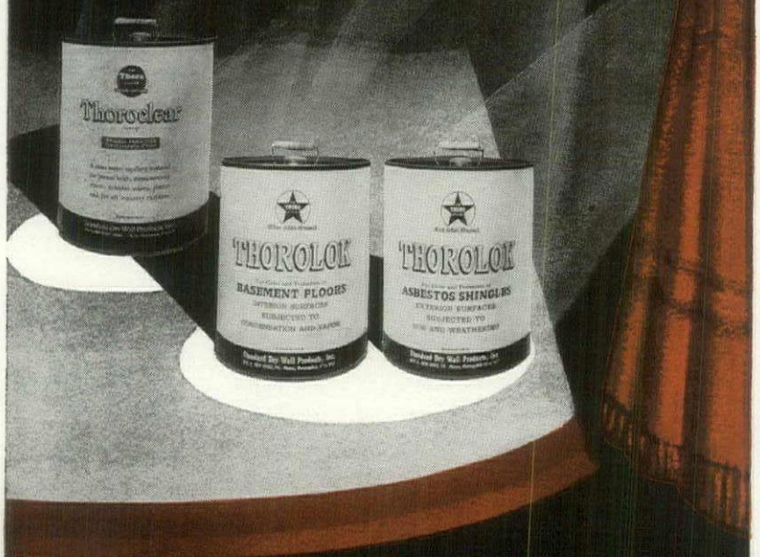
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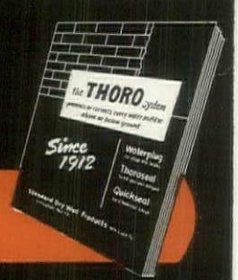
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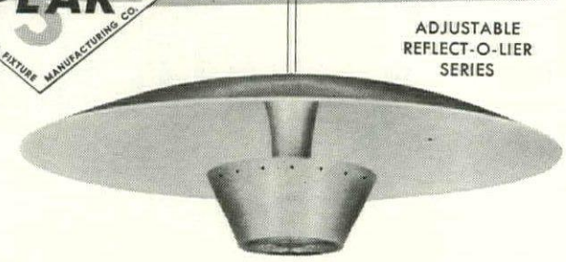
"HOW TO DO IT"
Write for pictorially described literature

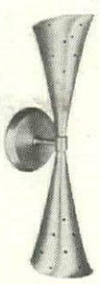


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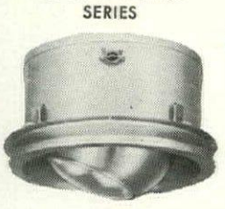
modern lighting trends

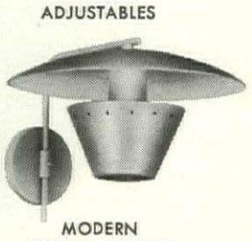
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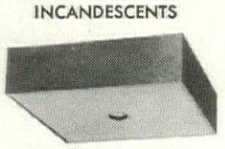

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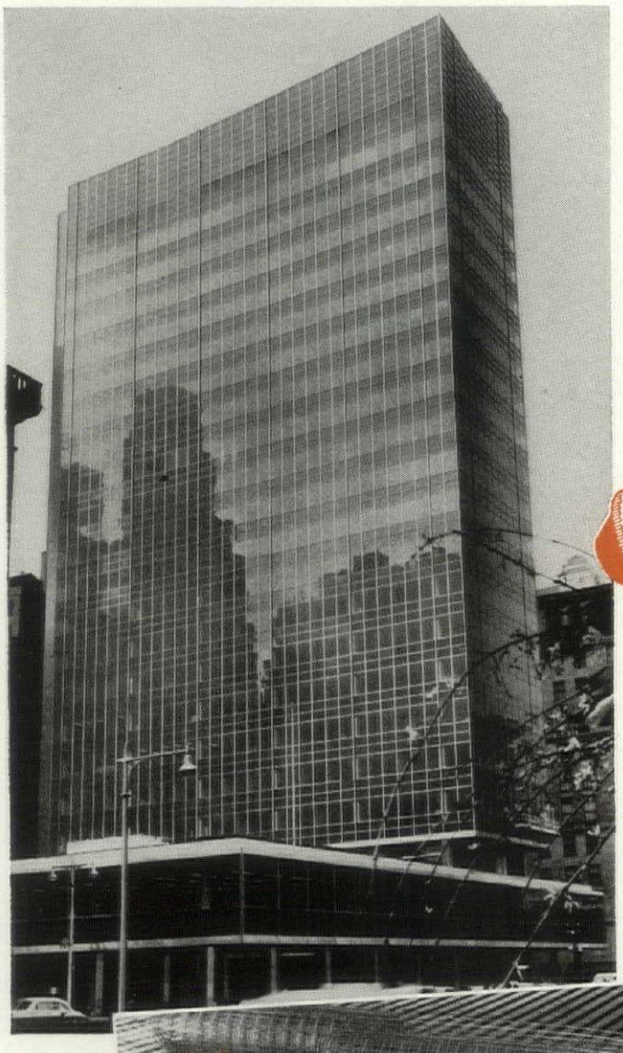
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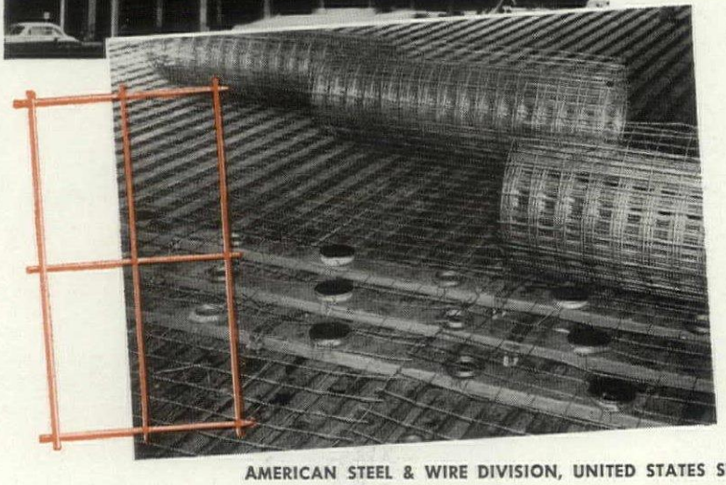
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This ultra-modern, 24 story tower, on New York's Park Avenue, houses the many and varied enterprises of Lever Brothers Company. It has been called "a meaningful contribution to the development of modern architecture." Embodying many innovations in plan and construction, the building is designed to remain modern indefinitely. That is why the concrete floor slabs laid over the cellular steel sub-floor are reinforced with a total of 120,000 square feet of American Welded Wire Fabric.



In addition to greater strength and longer life, you get other important advantages with American Welded Wire Fabric. For the same amount of strength, you actually use less steel (up to 28%) than with other reinforcing materials, an important saving in the costs of material, in trucking and unloading at the job. In addition, American Welded Wire Fabric prevents unsightly cracks and gives a permanently attractive installation.

Because it is factory-fabricated and delivered in convenient size rolls, American Welded Wire Fabric can be unrolled continuously over metal decking or cellular type construction rapidly and easily by minimum crews. That means important savings in labor costs.

Its proven superiority—not only in floors, but also in roofs, ceilings, walls, foundations, sidewalks and city streets—has made American Welded Wire Fabric the largest selling concrete reinforcement in the world.

When you have some special reinforcing problem, our specialists will be glad to consult with you. Many standard designs, styles and sizes of American Welded Fabric—which will meet most of your needs—are available from conveniently located jobbers' and dealers' stocks. Just drop a line to our nearest sales office and we shall be glad to send you full information in the latest American Welded Wire Fabric Catalog.

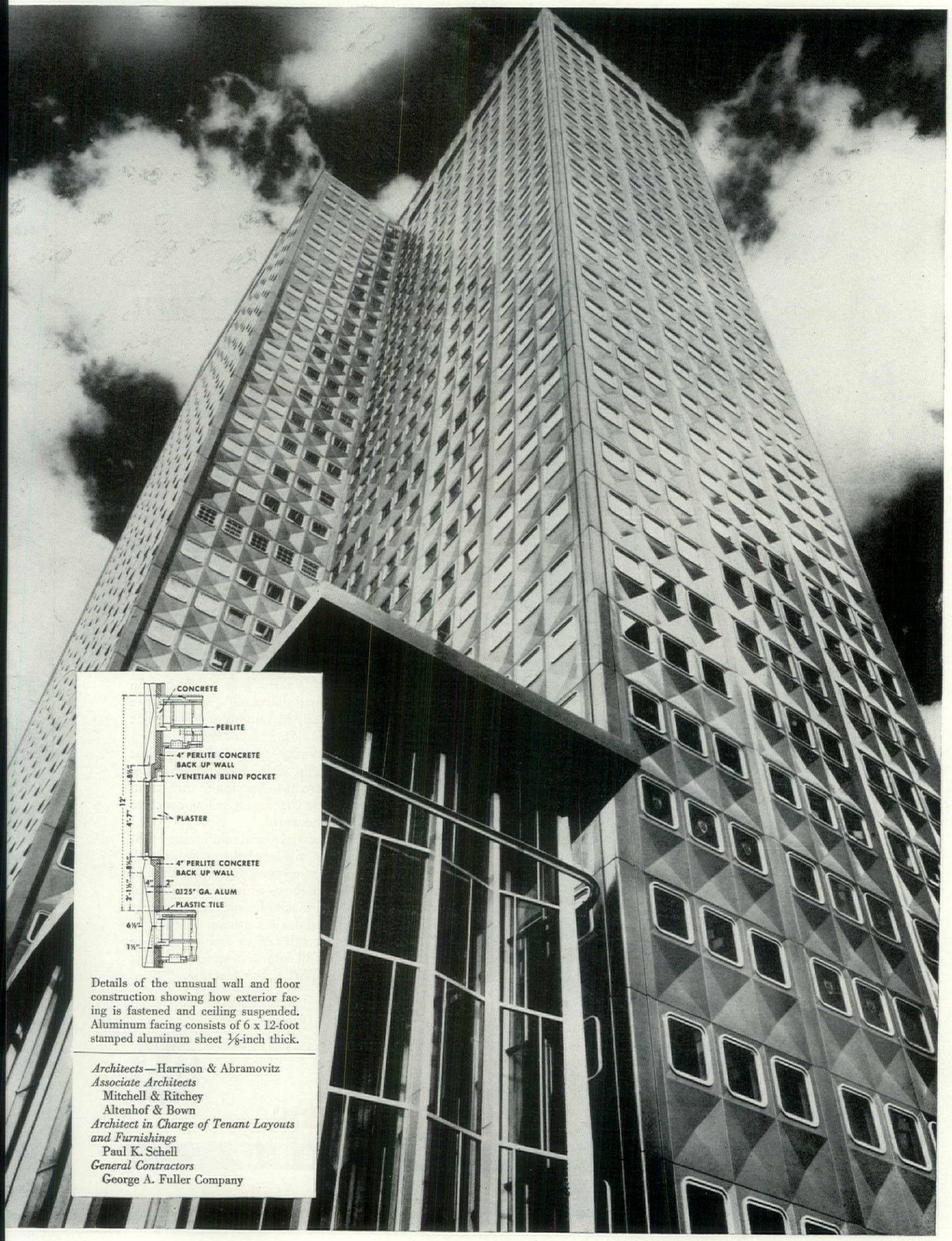
AMERICAN STEEL & WIRE DIVISION, UNITED STATES STEEL CORPORATION
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UNITED STATES STEEL



Details of the unusual wall and floor construction showing how exterior facing is fastened and ceiling suspended. Aluminum facing consists of 6 x 12-foot stamped aluminum sheet ⅛-inch thick.

Architects—Harrison & Abramovitz
Associate Architects
Mitchell & Ritchey
Altenhof & Bown
Architect in Charge of Tenant Layouts and Furnishings
Paul K. Schell
General Contractors
George A. Fuller Company

AN INVITATION TO VISIT A LABORATORY TO THE BUILDING INDUSTRY...THE ALCOA BUILDING

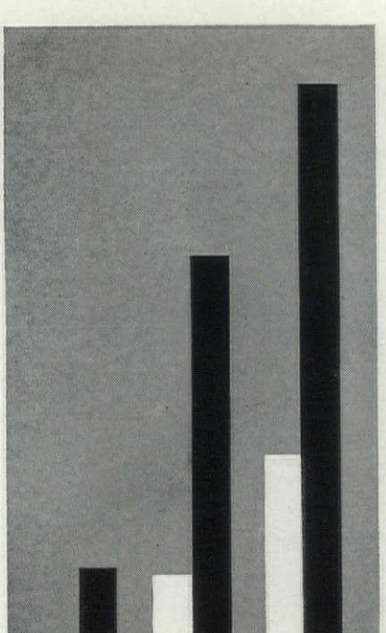
As an architect, designer or contractor, you've probably had a keen desire to see and thoroughly inspect aluminum in a variety of interesting applications in one completed project. Perhaps you have thought of specifying aluminum for curtain wall panels with windows built into them, or ceilings of aluminum which would supply year-round controlled temperatures, or all-aluminum electrical distribution or water service systems.

The new Alcoa Building has been built to include all these practical applications of this metal of all trades and many more. Years of research plus the ingenious designs of the architects and engineers have created this unique and efficient headquarters building for Alcoa.

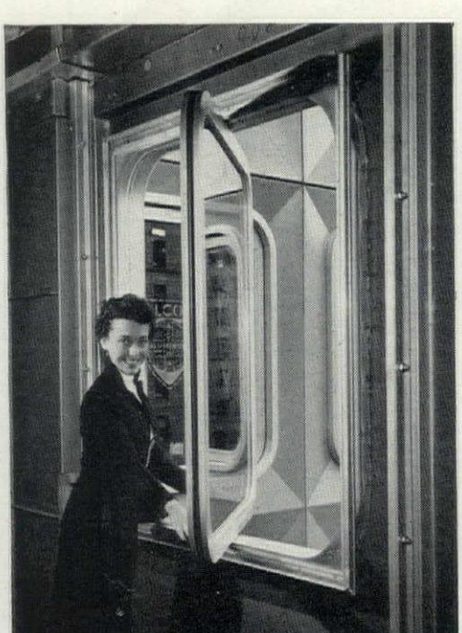
During September, Alcoa extends a sincere invitation to those of you with an interest in new and unusual applications of aluminum to come to visit the Alcoa Building, a laboratory to the building industry, opening this month. Aluminum Company of America, 1887-J Alcoa Bldg., Pittsburgh 19, Pa.

Alcoa Aluminum

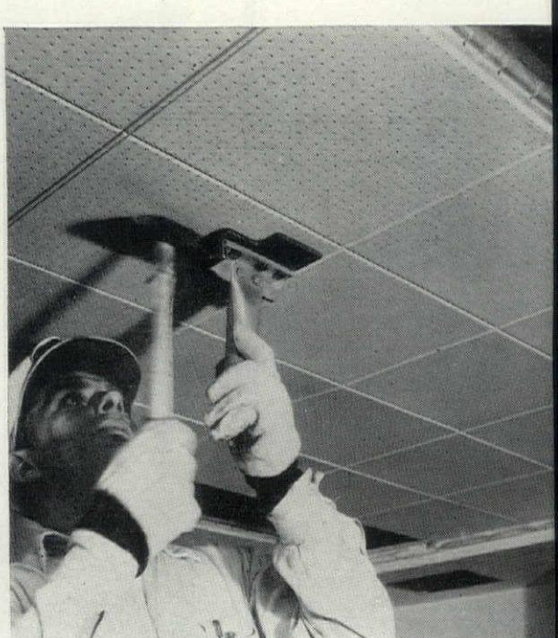
ALUMINUM COMPANY OF AMERICA



Before World War II the aluminum industry sold 18 million pounds annually to building field—only 6% of its 300-million-pound total production. *Before Korea* it was selling 280 million pounds—20% of 1.4-billion-pound output. Best market research indicates rise to 700 million pounds annual consumption by building trades—35% of 2-billion-pound industry capacity.



Aluminum windows will be closed and locked except for cleaning, effected from the interior by pivoting window on vertical axis. In cross section, windows contain sections ¼-inch-thick plate glass, ½-inch air space and ¼-inch-thick heat-absorbent plate glass on the weather side.



Radiant heating and cooling system is first of type in this country. It is designed to handle all winter-heating requirements and summertime cooling; including acoustical comfort.



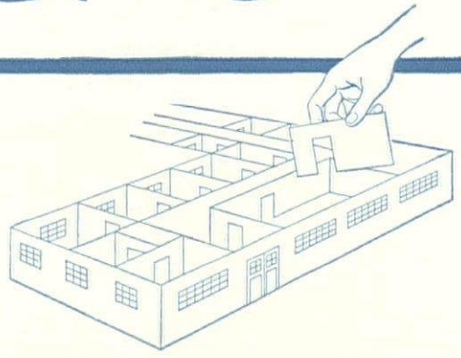
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make it adaptable...provide *Space Control*

MILLS Movable Metal Walls enable Dun & Bradstreet, Inc. to *control* the space in its new Home Office Building—to keep it at maximum efficiency even when changes in needs dictate radical changes in layout.

Mills Walls are *permanent* in every desirable respect—distinctively modern and attractive, completely insulated and soundproofed. But whenever the need occurs, they can be moved quickly, easily and at very low cost—generally in a matter of hours, overnight or during a week end, without interrupting normal business routine.

THE MILLS COMPANY
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Dun & Bradstreet makes effective use of Mills glazed railings for semi-private offices, providing efficient distribution of natural light. Mills Walls are available in a wide variety of styles and finishes.



keep office space efficient...

at Dun & Bradstreet, Inc.

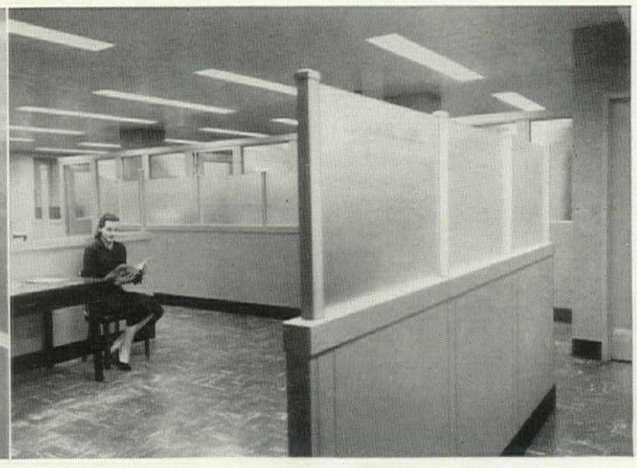


Dun & Bradstreet, Inc.
Home Office Building
New York, N. Y.

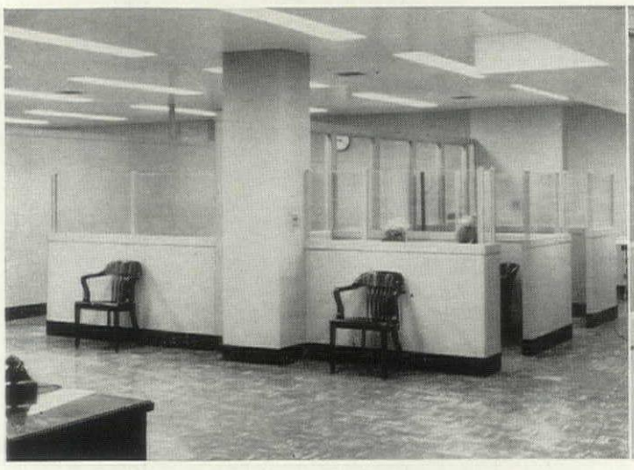
Architects: Reinhard, Hofmeister & Walquist



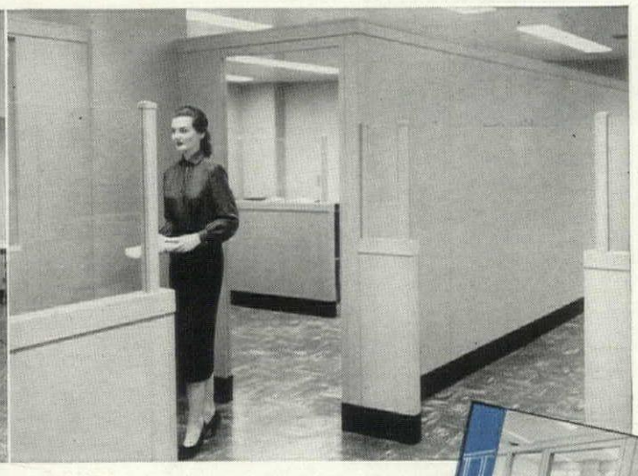
Mills Walls require no maintenance other than an occasional washing to keep them looking attractive and new.



Wiring for light, phone and air conditioning controls is easily installed in base, cornice and panel connections.



There will be no dust or debris when these semi-private offices are rearranged. Whole sections of Mills Walls may be moved intact, all parts used over and over again.



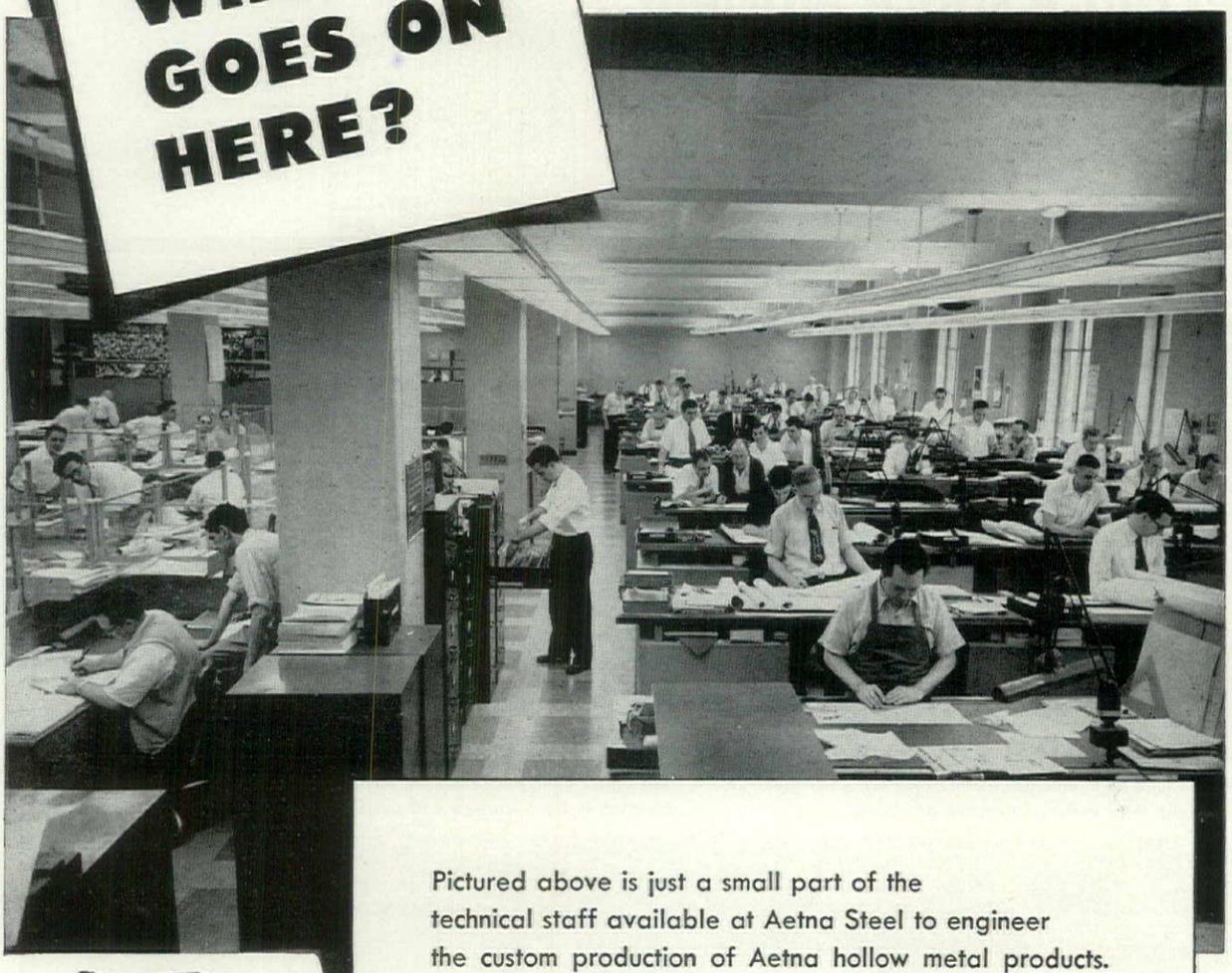
Mills exclusive all-welded panel construction provides maximum structural stability, dignified, modern, architectural design.



MILLS *Movable* **METAL WALLS**

The Mills Movable Walls Catalog is a practical 48-page workbook on Space Control. We'll gladly send you a copy upon request.

WHAT GOES ON HERE?



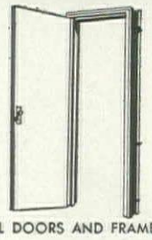
Pictured above is just a small part of the technical staff available at Aetna Steel to engineer the custom production of Aetna hollow metal products.

As every architect knows, engineering follow-through on specifications is high on the list of factors which determine the success of a job.

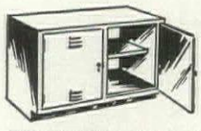
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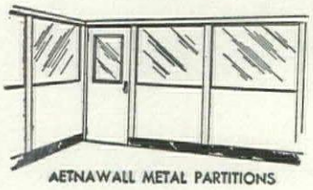
STEEL PRODUCTS CORPORATION



STEEL DOORS AND FRAMES



STEEL HOSPITAL CABINETS



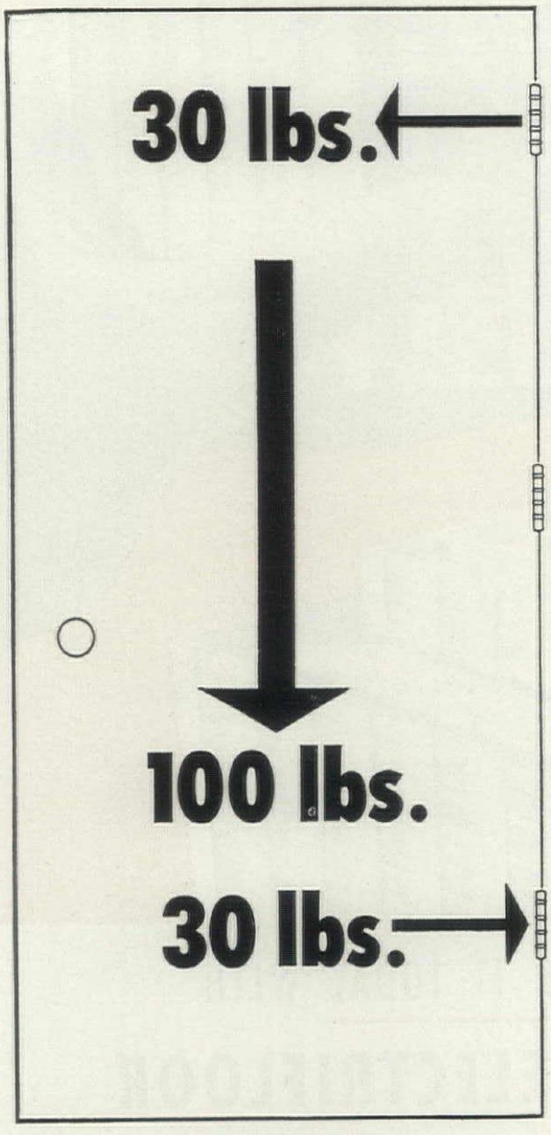
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AETNA STEEL PRODUCTS CORPORATION

730 FIFTH AVENUE, NEW YORK 19, NEW YORK

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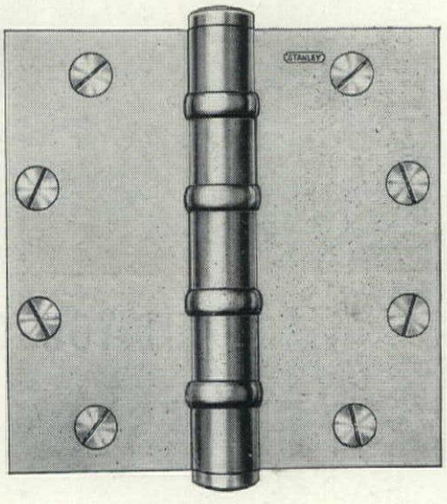
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The Hinge That Won't Wear Out

No matter how frequent the service, how heavy the door — here's *the* hinge that will last as long as the building. The radial-thrust bearings equally distribute and carry the *lateral* as well as *vertical* thrust — make it practically impossible to wear out this hinge.

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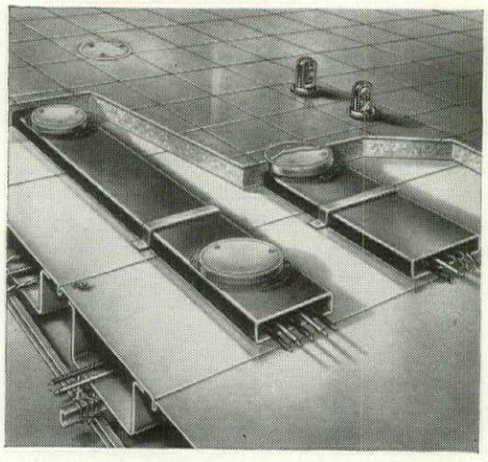
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Fenestra-Nepco Electrifloors are formed of cellular steel panels—by Detroit Steel Products Co.—and National Electric Header Duct, an all-steel grounded feeder raceway. Electric wiring through this combined raceway system provides availability of electric outlets in any square foot of floor area.

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Two of the yardsticks used to judge your designs are your clients' appraisal of their utility and the public's estimate of their beauty. This lovely MICARTA installation above satisfies everyone. The Truwood walls and furniture surfaces can be kept clean and gleaming for visitors with just a wipe of a damp cloth. The warm wood grains are kept locked for life under a protective layer of clear plastic.

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Please send full information on MICARTA and its applications. (1118)

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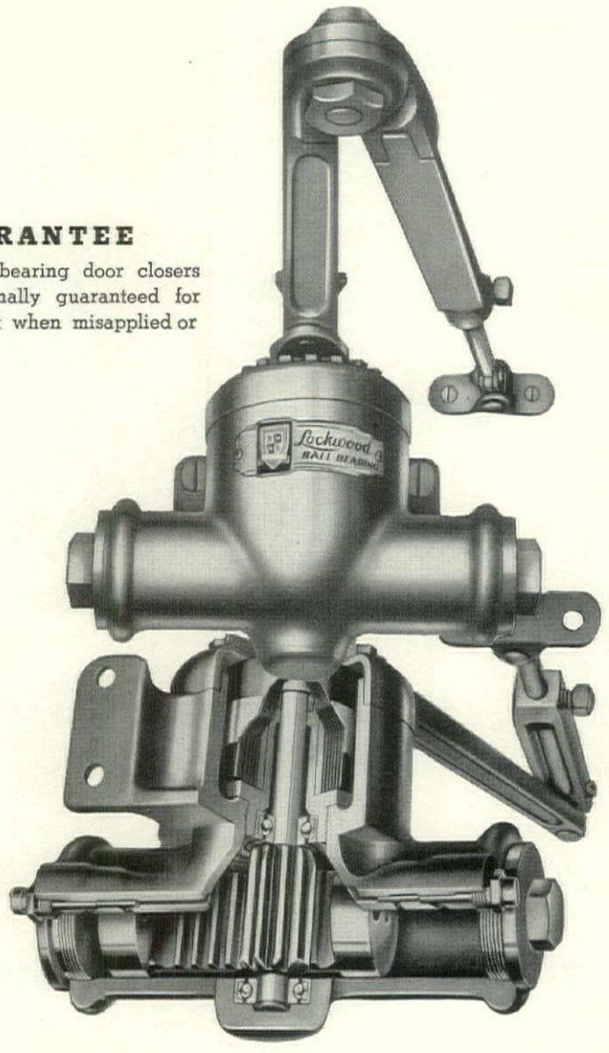
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GUARANTEE

Lockwood ball-bearing door closers are unconditionally guaranteed for 2 years, except when misapplied or misused.



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BALL-BEARING SUPPORT
at the main bearing points ensures friction-free power . . . and only Lockwood has it.

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ensures efficient year-round performance with minimum maintenance expense.

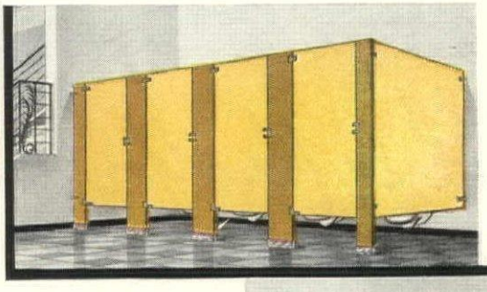
OVERSIZE ONE-PIECE SHAFT AND PINION
eliminates all failures due to twisting, bending or shearing.

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guarantees normal closing speed even under extreme draft conditions.

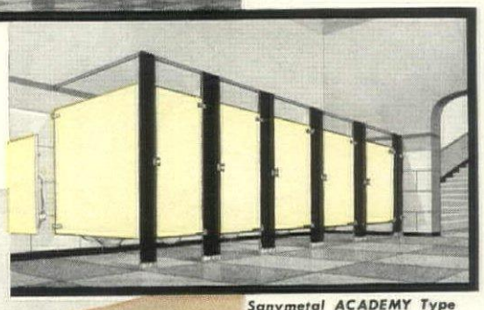
Lockwood

LOCKWOOD HARDWARE MFG. CO.
Fitchburg, Massachusetts

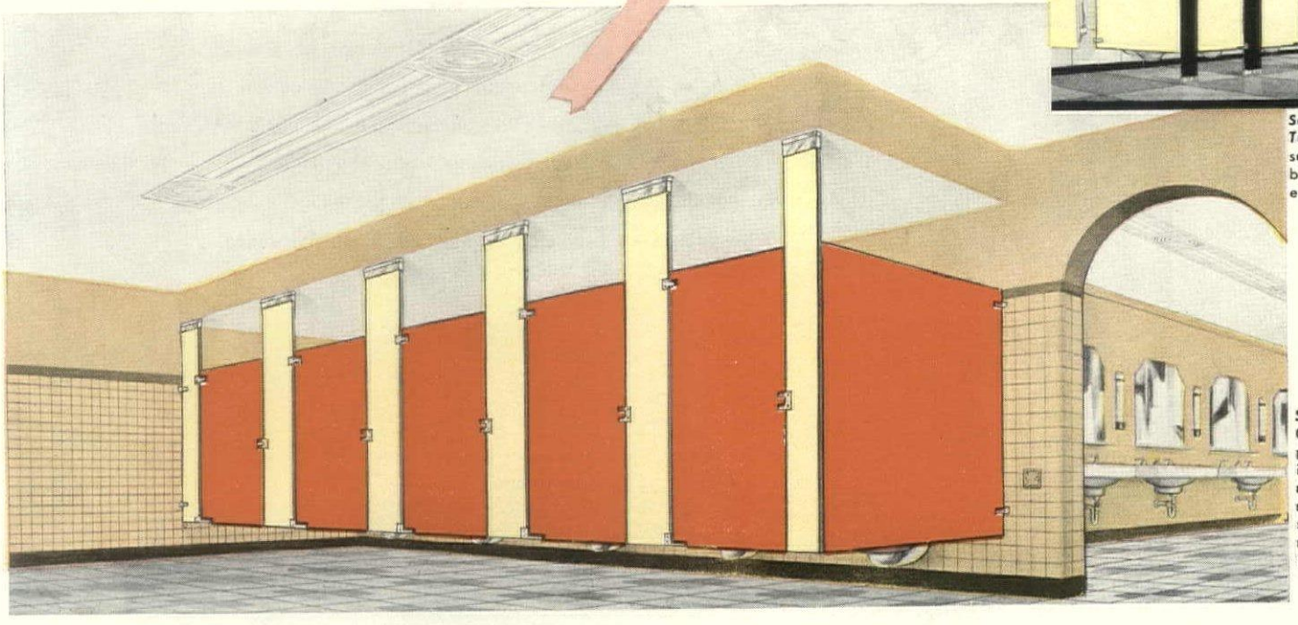
the mere
functional type of rest room
is ***INCOMPLETE!***



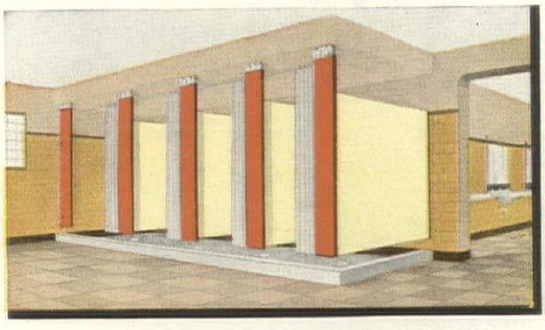
Sanymetal NORMANDIE Type Toilet Compartments endow a rest room environment with dignity and good taste.



Sanymetal ACADEMY Type Toilet Compartments are suitable for conservative but modern rest room environments.



Sanymetal CENTURY Type Ceiling Hung Toilet Compartments offer the utmost in sanitation and provide modern, distinctive rest room environments for schools, institutions, terminals and other public buildings.



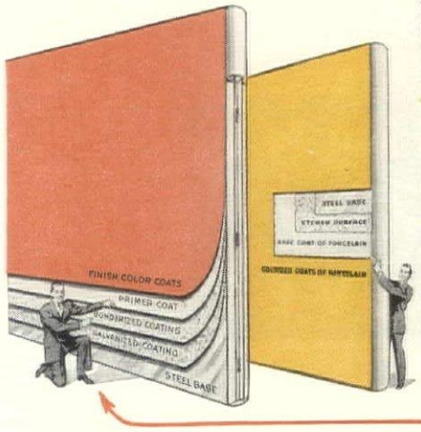
Sanymetal CENTURY Type (Ceiling Hung) Shower Stalls of Sanymetal "Porcena" (Vitreous Porcelain on Steel) Partitions and Pilasters, as arranged for a typical club installation. Also available in Sanymetal "Tenac" (synthetic enamel baked-on over Galvanized, Bonderized** Steel).

It is obsolete before it is completed according to today's standards. To insure against *untimely obsolescence* consider wall-type plumbing fixtures installed with Sanymetal ceiling-hung toilet compartments.

Sanymetal offers several different types of toilet compartments. Sanymetal also offers and recommends Two Full Purpose Metal Base Materials which combine colorful attractiveness with long years of service life and effect important day-after-day savings in cleaning and maintenance costs. These Two Full Purpose Metal Base Materials—Sanymetal "Tenac" (Galvanized, Bonderized** Steel), and Sanymetal "Porcena" (Vitreous Porcelain on Steel), the ageless and fadeless, rustproof material—are described herein. Sanymetal Toilet Compartments are also available in cold rolled steel.

Sanymetal Toilet Compartments and Shower Stalls embody the results of over 39 years of specialized skill and experience in making over 500,000 toilet compartment and shower stall installations. Ask the Sanymetal representative in your vicinity to demonstrate the worthiness of Sanymetal Toilet Compartments as protection against *untimely obsolescence.*

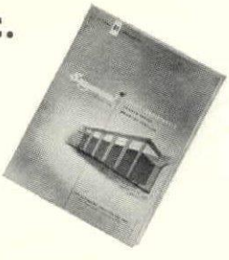
This is Sanymetal
"PORCENA"
(Vitreous Porcelain on Steel)
A metal base material that is impervious to moisture, odors, cleaning and uric acids, oils and grease. It is rust proof. Available in 21 glistening colors.



This is Sanymetal
"TENAC"
*(Baked-on Paint Enamel over Galvanized, Bonderized** Steel)*
A metal base material that is notable for the positive adhesion of the baked-on paint enamel to the metal and its resistance to corrosion. Its lustrous, protective finish assures long-lasting newness. Available in 21 gleaming colors.

THE SANYMETAL PRODUCTS CO., INC.
1687 Urbana Road • Cleveland 12, Ohio

Sanymetal Toilet Compartments embody the results of specialized skill and experience in fabricating over 500,000 toilet compartments in all types of buildings. Ask the Sanymetal representative in your vicinity for information about planning suitable rest room environments that will always stay new. Refer to Sanymetal Catalog $\frac{21b}{Sa}$ *in Sweet's Architectural File for 1953 and Catalog* $\frac{13a}{Sa}$ *in Sweet's Industrial File for 1953.*

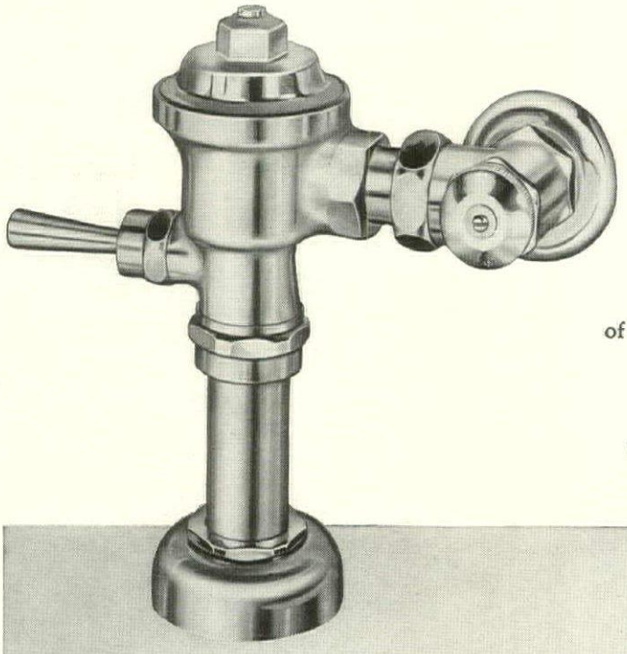


Sanymetal*

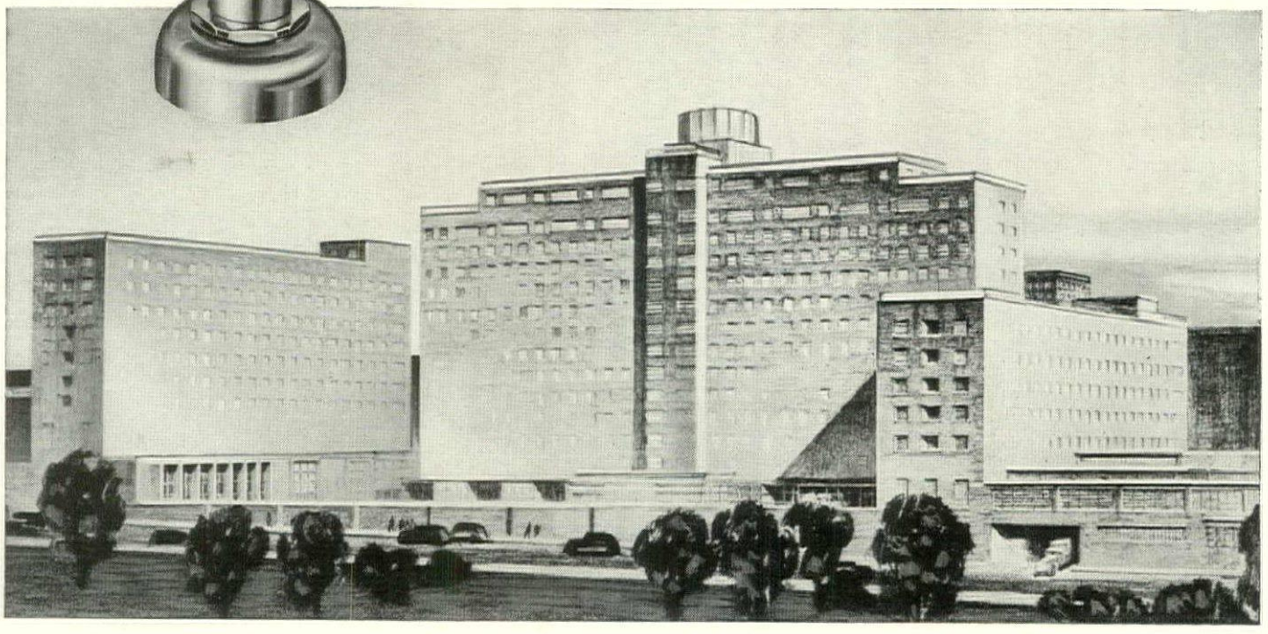
*Trade Mark Reg. U. S. Pat. Off.
**Treated with "Bonderite", a product of Parker Rust Proof Company

TOILET COMPARTMENTS
SHOWER STALLS AND
DRESSING ROOMS

And in New York – A FUTURE OF FAULTLESS SERVICE



One of the more impressive units in the revitalization of New York's East Side – and a recent COYNE & DELANY installation – is this huge Nurses School and Residence, adjoining famed Bellevue Hospital. Answering a long felt need, the school nicely complements the activities of the hospital proper, just as the selection of COYNE & DELANY diaphragm type FLUSH VALVES for this new building complements the DELANY VALVES installed in the existing hospital years ago – valves still unmatched in performance.



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CITY OF N. Y., DEPT. OF PUBLIC WORKS
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Under trying water conditions, an invaluable feature of all DELANY VALVES is the protected monel metal bypass shown at left. In this trouble-susceptible area in all flush valves, the use of monel precludes corrosion. Further real protection of the minute orifice against clogging by sand and debris is afforded by a fine mesh monel screen. It is sluiced clean with every flush, limiting the need for periodic dismantling and cleansing.

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DELANY *Flush* VALVES *Since 1879*

Public housing's war of words

- **Eisenhower upholds Congressional cuts after hearing New York's Robert Moses attack them**
- **Across the nation, public housing finds new troubles Sample: dealer group quits buying housing bonds**

If anybody thought public housing would lie down and die now that Congress had chopped it to 20,000 starts a year, he reckoned without the politics of public housing. Last month, as PHA Commissioner Charles E. Slusser made his Solomon's choice about which of the 55,946 housing units under contract could be built this year (see box), a debate over the fate of public housing began. It promised to be long and bitter.

It opened on a blue-canopied platform in Manhattan's Lower East Side (see cut) where President Eisenhower, interrupting his Colorado fishing vacation on Mortgage Banker Aksel Nielsen's ranch, had come to dedicate a public housing project. The project: partly built Baruch Houses, named in honor of the late Dr. Simon Baruch, father of the financier-philanthropist Bernard M. Baruch, whose 83rd birthday the President was honoring.

If the setting seemed strange for a man who has never said forthrightly where he stands on public housing, Eisenhower's handling of it was not. With a finesse veteran politicos could envy, the President managed to pat public housing on the head in principle without actually endorsing it.

Surgery, not compromises. Preceding the President as a dedication speaker, New York Construction Coordinator Robert Moses criticized Congressional cuts in public housing. They indicated, he said, "a deplorable resurgence of hard-boiled reactionaries to whom acreage is more important than people." Moses begged for "clean-cut, surgical removal of all of our old slums," announced his opposition to "phony compromises, however labeled, which look to patching up a few buildings here and there, whether such schemes originate with cute landlords and realtors or with tired reformers reduced to a counsel of despair."

Replied President Eisenhower, in an off-the-cuff talk: "There was some criticism, I think, a minute ago about the exact size of the appropriation made this year by the federal government for housing. I don't go along with that too much for this reason: there are many vicissitudes in the pulling and hauling and arguments of free government. . . . You can't . . . show that great bodies of citizens are living in hovels, unfit habitations, and not getting help—help expressed not only from private purses, as Mr. Baruch has done, but through official channels of appropriations." At another point, the President observed that the construction before him was more than "just bricks and stones of a new house." It was, he said, "the soul of a nation . . . that says its citizens each has a right to a certain standard of living." That was all Dwight Eisenhower had to say about public housing.

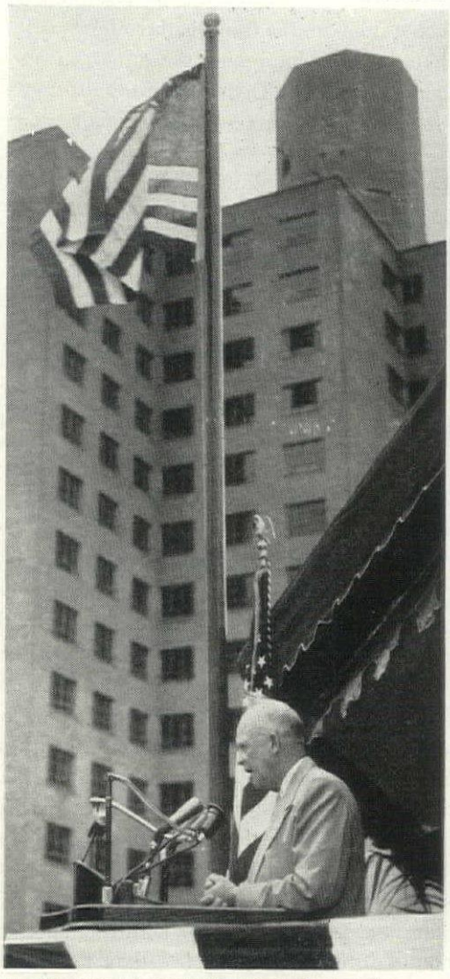
WHO CAN BUILD HOW MANY PUBLIC HOUSING UNITS

In parceling out its ration of 20,000 units to be started in fiscal 1953-54, the Public Housing Administration had to choose among projects totaling 55,946 units which PHA men had hastily signed up before Congress got around to forbidding new agreements. Commissioner Charles E. Slusser spread the ration among 22 states, the District of Columbia and Puerto Rico, managed to include 47 cities and villages. Slusser said the chief yardstick for selection was how much money local and federal governments had invested so far. NAREB, eyeing the four tiny projects in rural hamlets, tartly suggested the allocation had a lot more to do with votes. The complete list, by projects and city totals:

ALABAMA, Hartselle, 12. CALIFORNIA, Los Angeles, 146, 448, 140, 142, 532 for a total of 1,408; Richmond, 300; San Francisco, 608, 350, 164 for a total of 1,122; H.A. of San Bernadino Co. for Colton, 31. COLORADO, Denver, 300. CONNECTICUT, Ansonia, 125; New Haven, 368. FLORIDA, Miami, 250. GEORGIA, Athens, 130, 156 for a total of 286; Atlanta, 510. ILLINOIS, Chicago, 566, 471, 195, 595 for a total of 1,827; H.A. of Calhoun Co. for Brussels 4, for Hardin * 22, for Hamburg * 6, for Kampsville 12; H.A. of Macoupin Co., for Gillespie 20; H.A. of Madison Co. for Alton 100; H.A. of Perry Co. for Pinckneyville 26. INDIANA, Evansville, 108; Muncie, 160. KENTUCKY, Somerset, 43, 7, 34 for a total of 84. LOUISIANA, New Orleans, 408, 944 for a total of 1,352. MARYLAND, Baltimore, 816, 490 for a total of 1,306. MICHIGAN, Detroit, 270, 8, 128, 148 for a total of 554; Saginaw, 236. MISSOURI, St. Louis, 512, 700 for a total of 1,212. NEW JERSEY, Newark, 778. NEW YORK, Buffalo, 463; New York, 484, 490, 832 for a total of 1,806; Syracuse, 331. NORTH CAROLINA, Goldsboro, 115; Rocky Mount, 110; Winston-Salem, 244. OHIO, Cincinnati, 280; Youngstown, 304. OREGON, H.A. of Douglas Co. for Reedsport *, 14. PENNSYLVANIA, Monessen, 150; Connellsville, 100; Philadelphia, 203, 317 for a total of 520. TENNESSEE, Etowah, 54. TEXAS, Beaumont, 150; Galveston, 104; Knox City *, 32; Texarkana, 125. VIRGINIA, Norfolk, 200, 428 for a total of 628; Portsmouth, 515. DISTRICT OF COLUMBIA, 128. PUERTO RICO, San Juan, 1,150.

* Rural nonfarm housing.

United Press



EISENHOWER DEDICATES BARUCH HOMES

Labor & Democrats. The President's temperate, if somewhat inarticulate, words drew two important responses within the next three weeks—both highly articulate, if somewhat intemperate. Cried AFL Secretary-Treasurer William F. Schnitzler in a Labor Day week-end broadcast: "You should be alerted at this point about a new kind of campaign that has begun developing since Congress killed the public housing program. In city after city, we've begun to hear demands that slums be eliminated. . . . But many of those who are now echoing this challenge are merely setting up a smoke screen. They are crying 'slum clearance' but not planning housing for those displaced from the slums. . . . The only answer is public housing. . . . *Don't let your community carry on a slum clearance program that does not also include public housing.*"

The significance of Schnitzler's outburst would not escape private construction leaders: in damning private enterprise's plans for rehabilitating aged but sound housing, Schnitzler was playing footsie with professional public housers who rightly fear that if rehabilitation works on a wide scale, their empires will be in jeopardy. Why should labor care? Public housing is 100% union-built by AFL craftsmen. Most

of the private housing industry is still open shop (although the trend is the other way).

Harry Truman joined the attack in his Labor Day talk at Detroit. Said the former President: "...There are other signs that the government is no longer so concerned for the welfare of all of us. Our great public housing program, which was helping to clear America's slums, has been condemned to death. . . . You may yet be able to get some of the public housing program restored if you fight for it."

At Chicago a week later, Truman shortened up his grip on the facts and bunted: "They [Republicans] say they are for better housing, but they kill off public housing and raise the interest rate so it is harder to build private housing." Next day, Presidential Press Secretary James C. Hagerty poohpoohed Truman's whole talk in Shakespeare's words: "Sound and fury . . . signifying nothing."

Is the commission pro or anti? In the end, the future of public housing will be up to the next Congress. But public housers were not happy this month over the composition of the 22-man advisory committee President Eisenhower named to recommend what GOP housing policies (including public housing) should be. On the committee were four realtors, ten mortgage lenders (including Eisenhower's fishing friend, Aksel Nielsen), two builders. On their records, none held any love for public housing. These were three pro-public housers: Cleveland's Ernie Bohn, the AFL's Richard J. Gray, president of the Construction Trades Dept., and CIO Housing Chairman James Thimmes. (*continued on p. 51*)

BUILDING STATISTICS: building boom hits new high; costs and materials prices easing

Construction shattered all sorts of records and reached its post-World War II crest this summer, judging by government and private statistical reports and surveys.

At $3.3 billion, August construction expenditures set another all-time monthly peak (see table). The big outlays added new assurance to a revised forecast by the Commerce Dept. and Bureau of Labor Statistics that the year's expenditures would reach $34.6 billion—6% more than last year's record $32.6 billion. (The official estimate last month also confirmed FORUM's exclusive report that building volume was going up, published in July.) Indicating that they saw the crest passing, BLS and Commerce officials estimated outlays for the first half of this year were 8.2% greater than the first six months of 1952, but forecast second half spending would be only 3.6% higher, "a smaller rise for the last six months than is usual." Next year's construction volume? For details of a FORUM forecast—slightly less than this year but a greater volume than 1952—see page 138.

Two encouraging signs for both builders and clients appeared: 1) materials prices, after steadily rising since last December, fell in August and will probably drop more (see chart); 2) although Boeckh building cost indexes for nonresidential structures continued to rise through July, two other leading trade barometers recorded declines in construction costs since then (see chart).

Citing growing cost-consciousness and competition throughout the industry, Myron L. Matthews of the Dow Service reiterated a prediction he made last fall: by next July average construction costs will be 5 to 10% below costs in Nov. '52, with the most perceptible drop probably appearing next January or March.

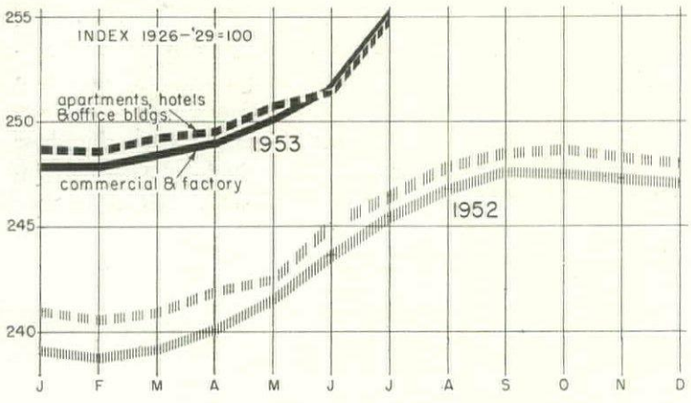
NEW CONSTRUCTION ACTIVITY

(expenditures in millions of dollars)

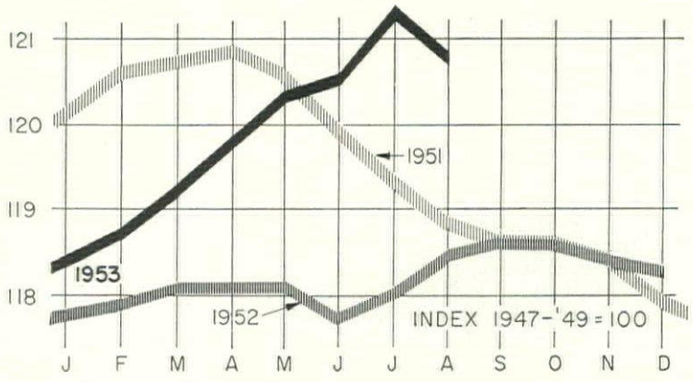
Type	August '52	August '53	August % change	1st eight months '52	1st eight months '53	1st eight months % change
PRIVATE						
Residential (nonfarm)	1,047	1,086	+3.7	7,038	7,690	+9.3
New dwelling units	930	950	+2.2	6,240	6,790	+8.8
Additions & alterations	99	111	+12.1	685	730	+6.6
Nonhousekeeping	18	25	+38.9	113	170	+50.4
Industrial	183	179	−2.2	1,550	1,532	−1.2
Commercial	98	172	+75.5	706	1,066	+51.0
Other nonresidential	140	151	+7.9	1,007	1,047	+4.0
Religious	36	43	+19.4	247	292	+18.2
Educational	31	38	+22.6	220	264	+20.0
Hospital	35	27	−22.9	269	210	−21.9
Public utilities	379	427	+12.7	2,586	2,838	+9.7
*TOTAL	2,030	2,184	+7.6	14,047	15,279	+8.8
PUBLIC						
Residential	56	42	−25.0	451	378	−16.2
Industrial	176	172	−2.3	1,028	1,240	+20.6
Educational	140	148	+5.7	1,073	1,109	+3.4
Hospital	43	27	−37.2	318	255	−19.8
Military	134	126	−6.0	894	926	+3.6
*TOTAL	1,088	1,137	+4.5	6,929	7,363	+6.3
GRAND TOTAL	3,118	3,321	+6.5	20,976	22,642	+7.9

* Minor components not shown, so total exceeds sum of parts. Data from Depts. of Commerce and Labor.

CONSTRUCTION EXPENDITURES in August set another all-time monthly high of $3.3 billion—$2.2 billion for privately owned projects, $1.1 billion for public works. For the first eight months of the year, outlays were 7.9% greater than in the same period last year.



BUILDING COSTS compiled by E. H. Boeckh & Associates rose 0.9% from June to July. The index for commercial and factory structures went from 252.9 to 255.2 The index for apartments, hotels and office buildings jumped from June to July. Engineering News-Record's construction and building illustrated) remained unchanged from July to August after falling 1.4% from June to July. Engineering News-Record's construction and building cost indexes reached all-time highs in August, but this month dropped 0.3% and 0.2%, respectively.



MATERIALS PRICES charted by the Bureau of Labor Statistics touched 121.3 in July—highest point ever reached on the BLS 1947-49 index base. It marked a steady 2.8% rise from December. In August, BLS's index sagged to 120.8. Declining prices for lumber, insulated wire and copper products accounted for most of the drop. Still more price cuts early this month pointed to a further decline when average September prices are computed. Items: copper and brass products were cheaper, steel supplies were easier and Douglas fir plywood basic ¼" stock fell from $90 to $80 per M sq. ft.

Is retailing's rush to the suburbs past its crest?

- **Analyst Roy Wenzlick notes 'adverse factors' and Land Planner Wehrly sees 'leveling off' ahead**
- **More local leaders ponder saving mass transit systems and one expert urges outright subsidies**

Never before had the nation experienced such a wave of shopping center construction in the suburbs. So great was the boom that the Commerce Dept. recently held it largely responsible for the sharp rise in commercial construction so far this year. But amid the building rush, some first signs and portents appeared last month that the trend of business and merchandising to follow customers to the fringes of town may have passed its peak.

Said Realty Analyst Roy Wenzlick: "We believe that the 'explosive' trend of urban land use development has just about reached its zenith. Adverse factors will begin to outweigh advantages of a further scattering of our cities. Already the cost and quality of ordinary municipal services and travel time to work are limiting the size of urban areas."

Said Executive Director Max Wehrly of the Urban Land Institute: "We are reaching a point in many areas where outlying centers are beginning to prey upon each other. For instance, a study in the San Francisco Bay Area discloses that about 100 organized shopping centers are either planned, building, or in operation. That's a lot of centers in any city, even one with an estimated 1960 population of 3.5 million [1950 population: 2.2 million]. The danger signal is up. While...there is still need for more of certain types, I believe you will see a marked leveling off in shopping center building in the next few years."

Expansions downtown. Some department-store operators already were acting and others were talking in agreement with Wenzlick and Wehrly:

- Dallas' Nieman Marcus was completing a $6½ million addition to its downtown store instead of going farther into the suburban field, where it has a $1½ million store.
- In San Antonio, Joske's had roughly doubled the size of its downtown store in the past two years, adding, among other things, a nine-acre parking lot.
- Warned President James Douglas of Seattle's Northgate shopping center: for a department store to expand into the suburbs is no longer the completely rosy, sure-fire situation it once was. Said he: "The suburban shopping center idea ...is being overdone in several major metropolitan areas already. On top of that is the increased cost of construction and higher interest rates on loans. With these new factors, a department-store operator must figure closely or he will end on the financial rocks." Douglas admitted that parking woes downtown were still nudging stores toward the wider spaces of suburbia, but he pointed out: "An unusually large advertising budget is required to change the pattern of traffic to a new location that formerly was an oat field. Without it, the suburban shopping center isn't going to draw the large volume required."

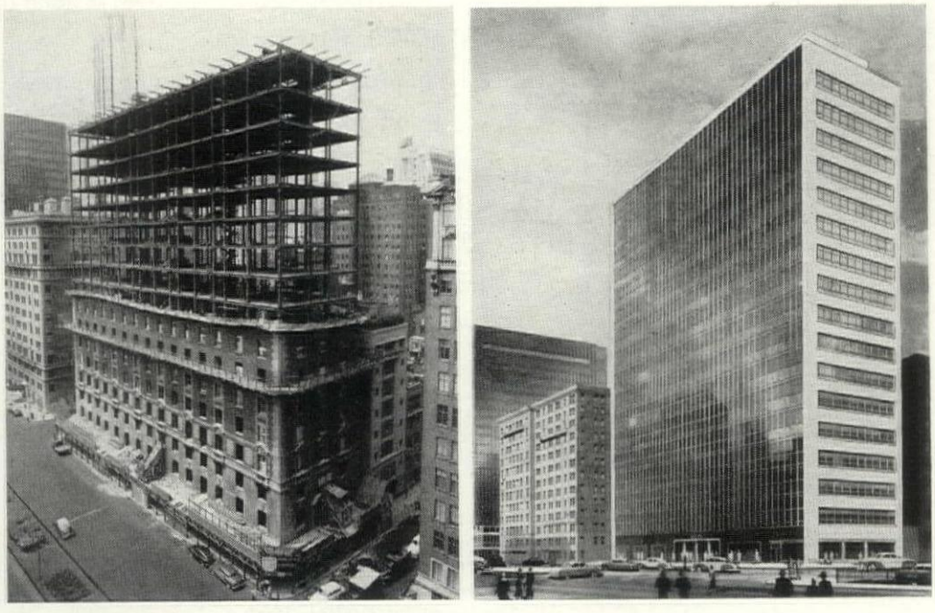
Freeways—or transit? Were the businessmen betting on renewed strength for downtown shopping as right as the prophets suggested? If so, their bet bore a strong implication that they saw some hope for easing the triple troubles that sped the rise of suburban shopping: traffic jams, parking and decaying rapid transit systems. Here, hopeful evidence was piling up that more and more community leaders were beginning to see that survival of cities was inextricably linked to salvaging mass transit systems.

Gov. Earl Warren, in a talk to 750 business and farm leaders, declared California's transportation problems will not be solved just by more highway construction. He called for developing "rapid transit systems of the metropolitan areas." Mayor Norris Poulson of Los Angeles announced: "I well realize that some form of rapid transit, whether it be monorail, subways or something else, is an essential [to solve Los Angeles' traffic problems]."

Executive Director Walter H. Blucher of the American Association of Planning Officials put it even more bluntly. In a Los Angeles speech, he said: "I am willing to stake my reputation that the building of expressways or freeways will not solve the traffic and transportation problems of any community. It is a proven fact that the super-speedways actually increase the downtown traffic problem." Advised Blucher: cities should face up to the fact that they must subsidize mass transit "simply as a means of self-preservation."

In Cleveland, which has had almost no redevelopment of its downtown business section, the idea of rescue by mass transit was being translated into action. On the November ballot will be a $35 million bond issue for a subway loop around the city's core to hook up with a $29 million surface rapid transit system now abuilding. Backers of the bond issue claimed

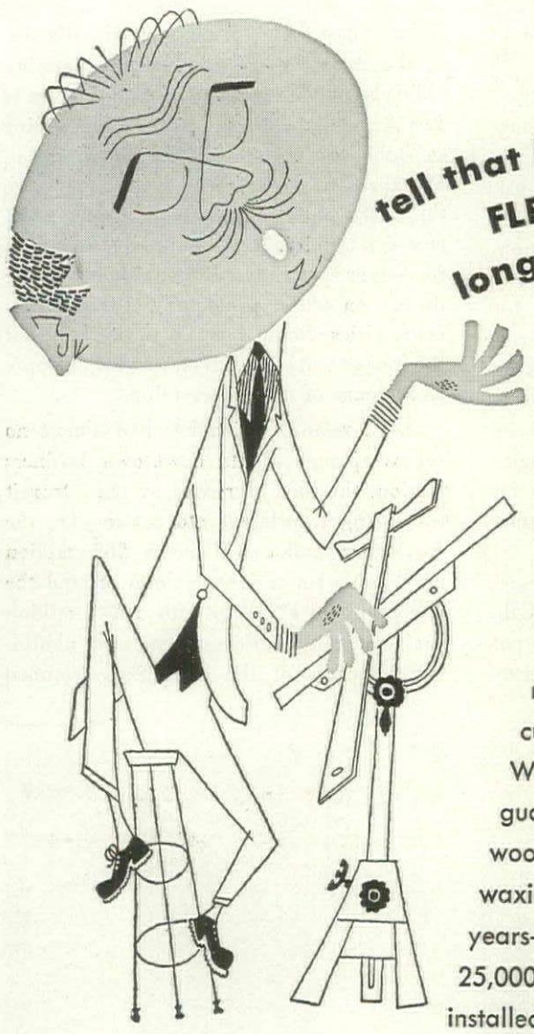
Adolph Studly



New York transformation: old bones to get new flesh

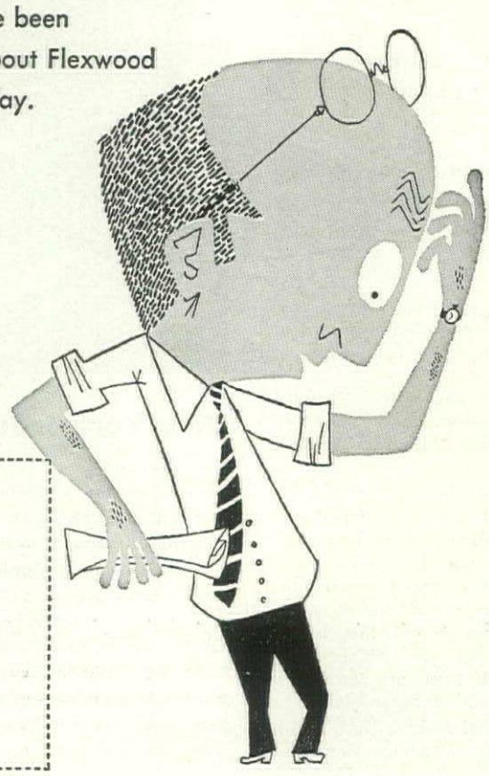
One block north of New York's Lever House workers started a Cinderella operation to convert a 40-year-old Park Ave. luxury apartment building (l) into a modern, metal-glass-front, air-conditioned office building (r). According to Emery Roth & Sons, architects for rejuvenating the 18-story structure, foundation and steel usually run about 20% of a new building's cost. They estimate that reusing the old frame and floors will save roughly $500,000, or about 16%—plus about five months construction time.

Another advantage bulked even larger: present zoning laws would reduce floor area by requiring setbacks on the upper 75′ of a "new" building of this height; but the project qualified as a "conversion" so the setbacks were avoided. In the transformation a new building core will be built in what was court space behind the building. Elimination of old elevator shafts and stairwells will provide clear, all-daylight 200′x55′ floors, except for columns. The site was leased from the William Waldorf Astor estate by the owner-builder syndicate: Freeman & Gerla; Oestreicher Realty Co.; Francis J. Kleban.



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it would help save downtown retailing from the threat of urban decentralization. Said Proctor Noyes, director of Cleveland's regional planning commission: "We know that by 1975 the city population will be down from 900,000 to 750,000 while the population in the county outside the city will have grown to 1 million. That's what we're worried about. We don't want Cleveland to become a sprawled-out collection of communities like Los Angeles with no central business area."

Feuding unions plague building; jurisdictional rows produce costly N.Y., Kansas City strikes

When Labor Secretary Martin P. Durkin quit and resumed his presidency of the AFL Plumbers and Pipefitters International, commentators had a field day expounding on the Eisenhower administration's tribulations in trying to get along with labor.

The building industry was having its troubles trying to get along with labor, too. There was a big difference, however: construction's troubles stemmed principally from labor's inner rows and conflicts and inability to get along with itself.

Threat lifted. For three weeks the industry wondered what wounds it might suffer in the expected jurisdictional feuding after the carpenters withdrew from the AFL. Principal complaint of the carpenters: while the AFL was making no-raiding agreements with the CIO it was ignoring "disruptive conditions" within the federation itself.

Fortunately, the carpenters rejoined this month. For the industry, the most heartening and significant condition of the reconciliation was that the parent AFL agreed it "should adopt some policy definitely designed to prevent raids within our own [AFL] organization."

Union peace plan. This summer the AFL's building and construction trades department took somber note of the "very serious state of affairs" arising from jurisdictional disputes. Its annual report to the AFL executive committee took an extraordinary form. It omitted all customary details about the department's activities, was devoted entirely to a proposal that the AFL establish an effective system with an impartial czar or "adjudicator" to settle jurisdictional squabbles among its component unions. The building trades department has its joint board for settling differences between its own numbers, but the board is powerless in disputes between its members and nonbuilding department unions like Dave Beck's fast-growing teamsters.

▶ Warned the building department: "As we foresee it, the present hodgepodge crazy-quilt jurisdictional pattern is bound to erupt, in the not-too-distant future, into open warfare between the international families now living in the house of labor. It won't take much to ignite the fire—the spark of an economic depression could start it.... Can we reverse the present trend toward inevitable open warfare?"

The AFL executive committee approved the building department report-proposal unanimously last month and tentatively decided to make this problem one of the main items of business at the AFL national convention in St. Louis.

Ebasco fiasco. Construction could cite too many current cases where it was the hapless victim of jurisdictional and intra-union warring. Notable was the trouble at the Joppa, Ill. power plant being erected to serve the Atomic Energy Commission's new installation near Paducah, Ky. In 31 months the Joppa job had been halted 37 times by work stoppages that put construction seven months behind schedule, boosted cost estimates from $135 to $180 million.

The disruption, disorganization and delays — caused mainly by wildcat strikes and jurisdictional disputes—finally wore out the patience of Electric Energy, Inc., the syndicate of private power firms who will operate Joppa. Last month, they ended their contract with New York's famous Ebasco Services, Inc., the nation's largest power plant builder. Ebasco announced it was relinquishing the job because of "local conditions which have prevailed from the start."

San Francisco's Bechtel Co. tried to get work restarted after a month's shutdown, banking on a jurisdictional disputes settlement plan and a no-strike pledge extracted from 19 union locals in the area by Secretary-Treasurer Joseph Keenan of the AFL building trades department. It was futile. Within two weeks ironworkers' local 595 struck because Bechtel refused to hire six men the union sent instead of six other workers Bechtel requested. Despite plans of the ironworkers' international to revoke local 595's charter and establish a new local, and orders from the presidents of all the other internationals to ignore local 595 picket lines, members of all 19 locals quit work and toward month's end had the job completely shut down again.

▶ Throughout July and August more than 100,000 New York building workers were idled and progress was halted on $600 million of construction projects by a strike of 1,200 AFL sand, concrete and building supply teamsters. Lumber and excavation truck drivers accepted increases of 30¢ and 40¢ an hour, plus fringe benefits, but in an intra-union power squabble the negotiators for the other drivers held out insistently for 75¢ more an hour plus fringe increases. Teamster President Beck finally appointed a three-man team to supersede the local's officers if necessary, threatened charter revocation if the local failed to settle or arbitrate. The outcome: arbitration.

▶ In similar fashion, Kansas City construction was crippled for ten weeks this summer by a teamsters' strike with jurisdictional undertones. This was settled July 20 after it had brought a House labor racketeering subcommittee to the scene and national AFL leaders put the strife-torn local building trades council under a trusteeship (AF, July '53, News). Gruff, gritty, 77-year-old committee chairman Clare Hoffman (R, Mich.) was chided later in the House for the conduct of some of his investigations and was curbed in handling committee funds. But his Kansas City hearings bore fruit. This month a Jackson County grand jury indicted Orville L. Ring, president and business agent of the Kansas City teamsters' local, on seven counts of embezzling union funds, falsifying union records, felonious assault and obtaining money from two builders "through fear" and threats to halt their work. In another indictment, the jury charged local officials of the National Electrical Contractors' Assn. and Local 124 of the AFL Electrical Workers union with acting in restraint of trade under the state's anti-trust law. A similar charge against the two groups under federal law was dismissed in 1949.

ODM to get tougher about dispersion in tax write-offs

Even before Russia announced it has the hydrogen bomb, US officialdom was quietly overhauling the nation's protective strategy: renewed emphasis was being placed on dispersion of target areas.

Through the fast tax write-off program, the Office of Defense Mobilization was putting more pressure on factories to build at least ten miles from the edge of target zones. From January through June, ODM received 198 applications involving $1 million or more for five-year amortization instead of the normal 20 (it does not bother about dispersion on smaller plants). It found that 162 of them (85%) met the ten-mile dispersion standard. It granted exceptions to 30 others. Its policy on exceptions, however, was growing tougher.

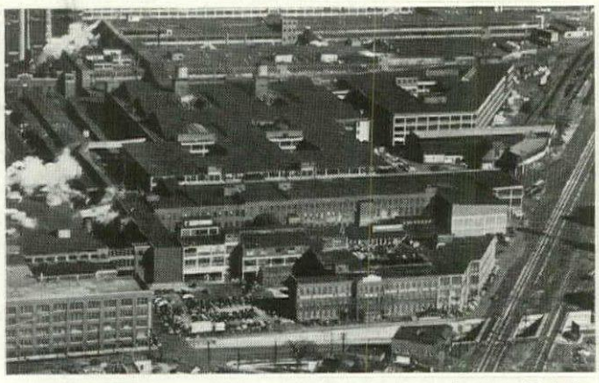
In deference to security if not its initiative, ODM has done little bragging about results under its May 5 directive permitting 100% fast tax write-off for bomb-resistant construction in exposed areas. The score: three applications approved, 12 pending. (On the $27.8 billion of facilities allowed fast tax write-off since Korea, the average portion of the costs approved for speedy depreciation was only 61%.)

ENGINEERING REPORTS:

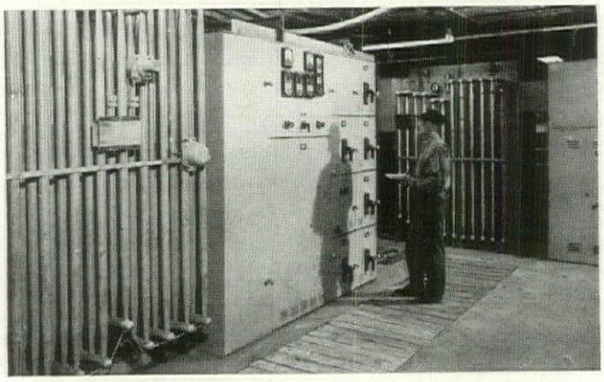


AT KAISER-FRAZER, G-E 480/277-volt electrical system serves both fluorescent lighting and machine load through five load-center substations. Electrical system was installed by Koontz-Wagner, electrical contractors, South Bend.

How "packaged power" speeded expansion of two plants



AERIAL VIEW shows 103-acre Willys Motors plant at Toledo, Ohio, where five G-E 1500-kva load-center substations were added recently. Total plant capacity is now 26,000 kva.



NEW LOAD-CENTER UNITS at Willys Motors were added by Romanoff Electric Co. of Toledo, Ohio, to the old system when increased production demanded increased power flexibility.

Pre-engineered components meant fast, easy power system design for Kaiser-Frazer and Willys Motors

Demand for increased production, plus a recognized need by plant management for greater protection of personnel and equipment, dictated a new power distribution system for the Dowagiac, Mich., plant of Kaiser-Frazer. Similarly, at Willys Motors' Toledo plant, there was a need for flexible, reliable power distribution equipment to carry the load of increased Jeep production. These conditions made the planning, selection, and installation of the power distribution systems one of the most important steps in expansion for these two plants.

Their typical solution: A system made up of "packaged" G-E components, tailored to plant layout and production needs. Easy-to-specify, easy-to-install G-E equipment saved months of design and installation time.

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HHFA puts brakes on slum funds

Jogged by Congress, the housing agency insists that cities push rehabilitation, enforce housing codes to qualify for Title I urban redevelopment loans and grants

Congress put a sleeper in the Independent Offices Appropriation Act in July that: 1) clamped a tight rein last month on federal aid for urban redevelopment, but 2) gave a powerful boost to realtor and homebuilder drives to rehabilitate blighted but not hopeless parts of US cities.

In one pointed sentence, Congress suggested federal funds be withheld from Title I projects until city recipients prove to HHFA that they are conscientiously enforcing local housing and building codes and are pushing rehabilitation programs. Taking the hint, HHFAdministrator Cole demanded last month from each of the 70 US communities seeking Title I loans or grants:

- A signed statement by the mayor or city manager outlining the scope of code enforcement efforts—expenditures and personnel, number of violations filed annually, and their disposition.
- A resolution by the city's governing body "reciting findings and conclusions...on the structural condition of the property and the practicability of rehabilitation at a reasonable cost."

Democratic policy junked. For cities everywhere, the implications of the new HHFA rules were sweeping. Democratic administrations had acted on the theory of helping cities just because they showed decay. They had conveniently overlooked a similar, if not quite so blunt Congressional directive in the very first sentence in the original Title I statute enacted in 1949: "...the administrator shall...give consideration to the extent to which appropriate local public bodies have undertaken positive programs...for preventing the spread or recurrence, in such community, of slums and blighted areas through...codes and regulations relating to land use and adequate standards of health, sanitation, and safety for dwelling accommodations."

Republicans, handed a law with only a negligibly different mandate on slum prevention, intended to help only cities that showed some spine about helping themselves. Moreover, the outlook was for vigorous, instead of flaccid administration by HHFA. Newsmen asked Administrator Cole if the threatened forfeiture of federal aid meant he favored a crackdown on landlords who let housing rot. Said he: "It certainly does."

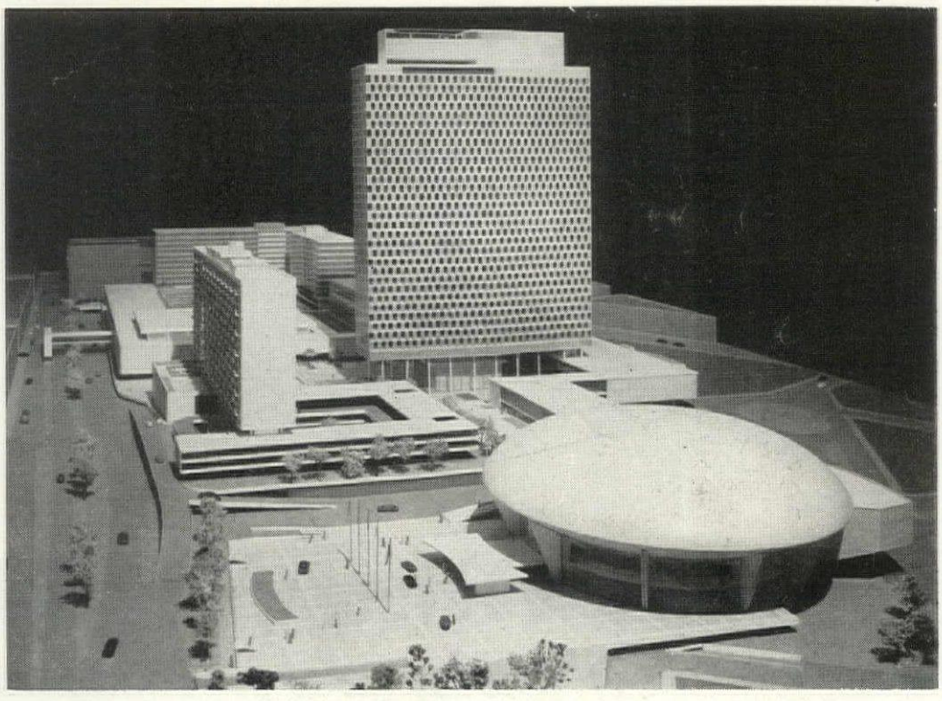
FHA help planned. In talks this month to the National Institute of Municipal Law Officers and the Producers Council, however, Cole emphasized that "the federal government cannot turn its back on such problems as slums, urban blight...[but] we will seek to expand local efforts, not to set local governments adrift."

"The government has a necessary role in helping private industry and local government to restore rundown property values and in the enforcement of codes," said the administrator. Recommendations for updating federal housing laws to help accomplish this, he added, "will undoubtedly include more liberal forms of mortgage insurance on existing structures and cooperative endeavors by FHA with local communities."

Blow for New York. Hardest-hit city under the new rule could be New York, No. 1 recipient of federal redevelopment handouts—seven contracts already signed for grants to total $32 million. Construction Coordinator Robert Moses, in charge of the city's Title I jobs, was promoting projects involving applications for $25 million more. They now looked like dead ducks: although New York slums have been spreading at an alarming rate, Moses in one of his public disputes with State Housing Commissioner Herman T. Stichman, only this spring opposed and derided efforts to launch rehabilitation drives. Moses wants slum "surgery," widespread demolition, rather than repairs (see p. 37). So far, New York had no rehabilitation program worth the name. It could not comply with the new HHFA rules unless it started one.

- Said a statement on the city's housing problems issued Aug. 31 by seven civic leaders: "New York does not have an integrated housing pro-

Robert D. Harvey Studios



A beehive office and domed convention hall for Boston

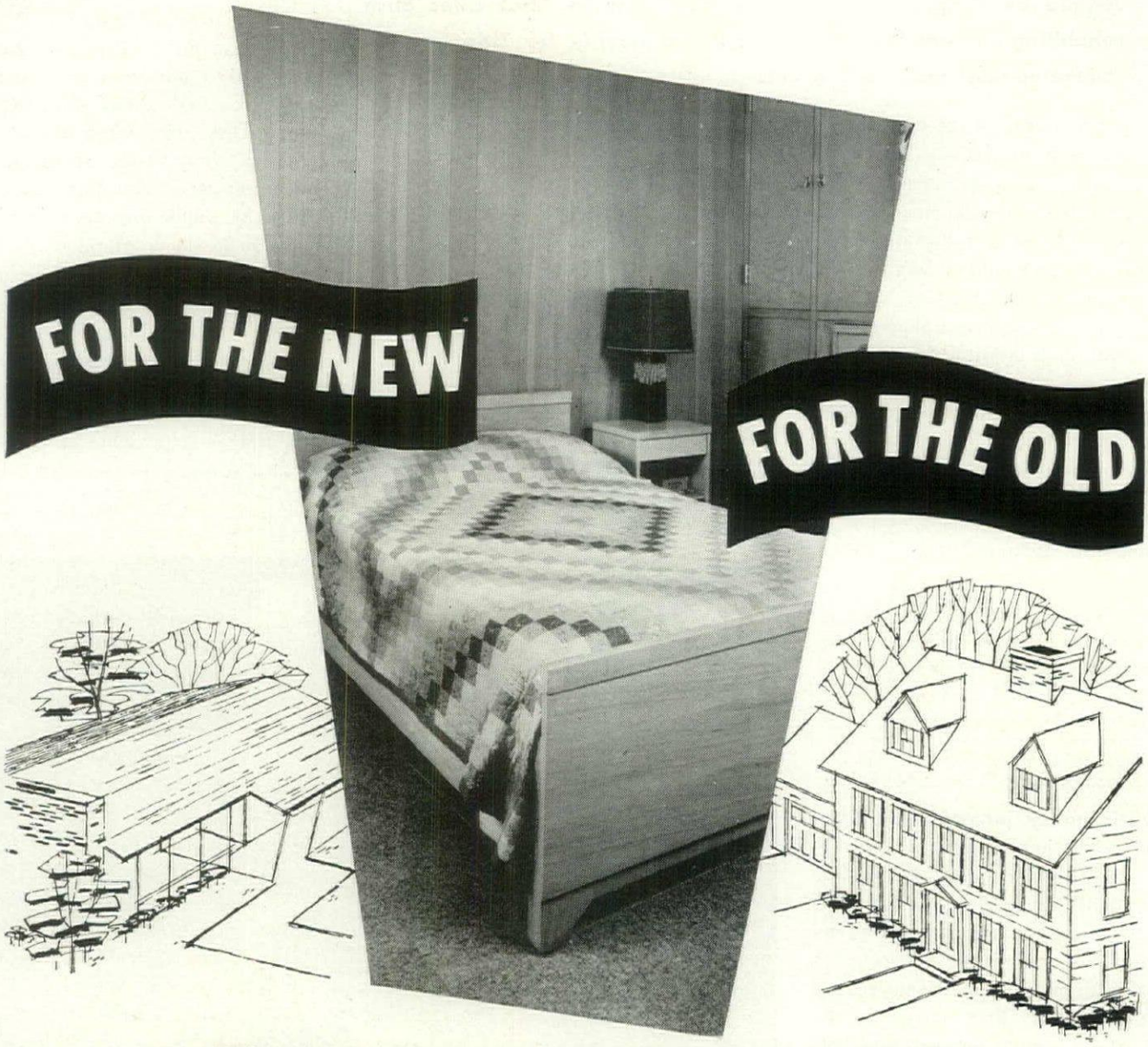
Boston got a preview this month of the $75 million private enterprise Boston Center redevelopment being planned by a syndicate headed by Roger L. Stevens (AF, Feb. '53). Mayor John B. Hynes unveiled a model disclosing that modern design will prevail to the last detail for the 30-acre business, shopping and hotel center and a convention hall the city proposes to erect (foreground) which, with Saarinen's MIT auditorium, will give greater Boston two shallow-dome auditoriums.

Structures to be built by the private interests include a 750-room motel-hotel (l), a 40-story office building with 670,000 sq. ft. of floor space (center), and beyond those (in background) three additional office buildings (7, 12 and 13 stories), a four-story department store and a three-story shopping center. Still undecided, said one of the project aides, was what material to use for the office building's remarkable beehive or vegetable-grater exterior.

Designers for the Stevens syndicate buildings: The Boston Center Architects—Pietro Belluschi, Walter Gropius and his firm, The Architects Collaborative, Walter F. Bogner, Carl Koch & Associates, and Hugh Stubbins Jr. Designers for the 7,500-seat mushroom-dome convention hall: the BCA in collaboration with Architect Samuel Glaser, representing the Boston Chamber of Commerce and Back Bay Assn.

Financing for the private area buildings has not been arranged yet, but that is "relatively unimportant. . . . I have never failed to obtain financing for my projects," said Stevens. Construction should start in 12 to 15 months, he said.

In Philadelphia's Penn Center redevelopment (AF, Feb. '53, et seq.) the first building, a 20-story office structure, will be financed by Prudential Insurance Co., announced Realtor Robert W. Dowling of New York, realty consultant for the project. The building will be built by New York's Uris Bros. The cost will be about $10 million, rather than the previously estimated $15 million, said Dowling.



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gram...Because of overcrowding, *lack of law enforcement* and failure to make repairs, New York's lower-income areas are deteriorating rapidly, increasing the ratio of slums to healthy real estate." Among the signers: Louis H. Pink, former Municipal Housing Authority member and former State Housing Board chairman; former City Corporation Counsel Paul Windels; Bowery Savings Bank President Earl B. Schwulst; Realtor Robert W. Dowling.

New architect licensing law in Colorado faces test

The troubles of Colorado's State Board of Examiners of Architects were not over yet. Last March, the state's 44-year-old architect licensing law was ruled unconstitutional because it did not establish specific "standards and requirements" for licensees and because it improperly delegated this legislative responsibility to the state's Board of Examiners of Architects (AF, Jan. '53 *et seq.*). The legislature hastily adopted a new law the day before it adjourned for two years. But the new measure was so vague it immediately invited new court tests.

This month the legal challenge arrived. Louis Rico of Colorado Springs sued to compel the examiners to issue him a license. Charged his 26-point complaint: the revised law still does not set standards for determining the qualifications of architects to be licensed without taking the board's usual four-day examination (as Rico seeks to do); it still unlawfully delegates legislative power to an administrative board.

Between the acts. Rico, 34, was born in Colorado Springs. He was graduated from high school there at the top of his class in June '38, and says he immediately became an apprentice in the office of Colorado Springs Architect Earl A. Dietz. Except for Army service from 1942 to 1945 (he became captain of an Engineers' company in Italy) he worked under Dietz through June '51, then went into business for himself as a designer.

After the old law was declared unconstitutional, while there was no law proscribing who was or was not an architect, he began to practice as an "architect" and accept contracts for public buildings. After the revised law was enacted he applied for a license under the provisions authorizing licenses without examinations for persons already practicing architecture. The board rejected his application.

Since the law was revised the state examiners have licensed several of the persons who had filed suits against them for registration last winter, notably James H. Johnson, formerly of Illinois and New York, who was refused a reciprocity license, and Denver Engineer Nat Sachter, whose suit brought the original unconstitutionality decision.

PEOPLE: Architect Eric Mendelsohn dies; James Marshall given AGC executive post; Cal Snyder quits NAREB job

Architect **Eric Mendelsohn,** 66, died in Mt. Zion Hospital at San Francisco on Sept. 15 after a brief illness. He was the first to go among that brilliant group of half a dozen internationally famed architects who started the 20th Century on its modern architecture.



MENDELSOHN

A quick, gay, witty man, short of build, Mendelsohn was ever ready to joke about his "blindness." (One eye lost in youth was replaced by glass, but rumor to the contrary, he could see very well with his other one.) Mendelsohn was a tough defendant of the architect's prerogatives and consequently sometimes aggravated building committees. His toughness was vital—he was a survivor of catastrophic times. He saw action with the German Army in World War I on both the western and the Russian fronts had to flee Hitler's racial persecutions in Germany in 1933; he became a wanderer of the 20th Century, settling first in England, later in Palestine; he came in 1941 to the US, becoming a US citizen in 1947, far from the East Prussian village where he was born.

At his death, Mendelsohn was upon the threshold of renewed recognition. The dynamic building forms, often freely curved and organic, which he had started drawing in the trenches in 1914, were proving to be precursors for a new era now made possible by later developments in building techniques, especially in reinforced concrete. In short, Mendelsohn skipped the trend of the past two decades when advanced architecture dealt with skeleton frames, with rigid forms ever more rational, regular, more refined in detail.

As a youth he gave his admiration to a Belgian master, Henry van de Velde, to the Paris 1889 Gallery of Machines, to Hamburg's 1906 railroad station, to American grain elevators, all of which he admired for their fluid outline. To him they expressed a new ideal he called "elastic continuity" not possible before this century; he admired also the emotionalism of van de Velde as contrasted with the cool rationality of Gropius. A few days before his death he remarked that the "circle of his life" began with the sculpturally molded and dynamic Einstein Tower at Potsdam (1921) and closed again with the dynamic circular building he projected for the electronics lab of the University of California.

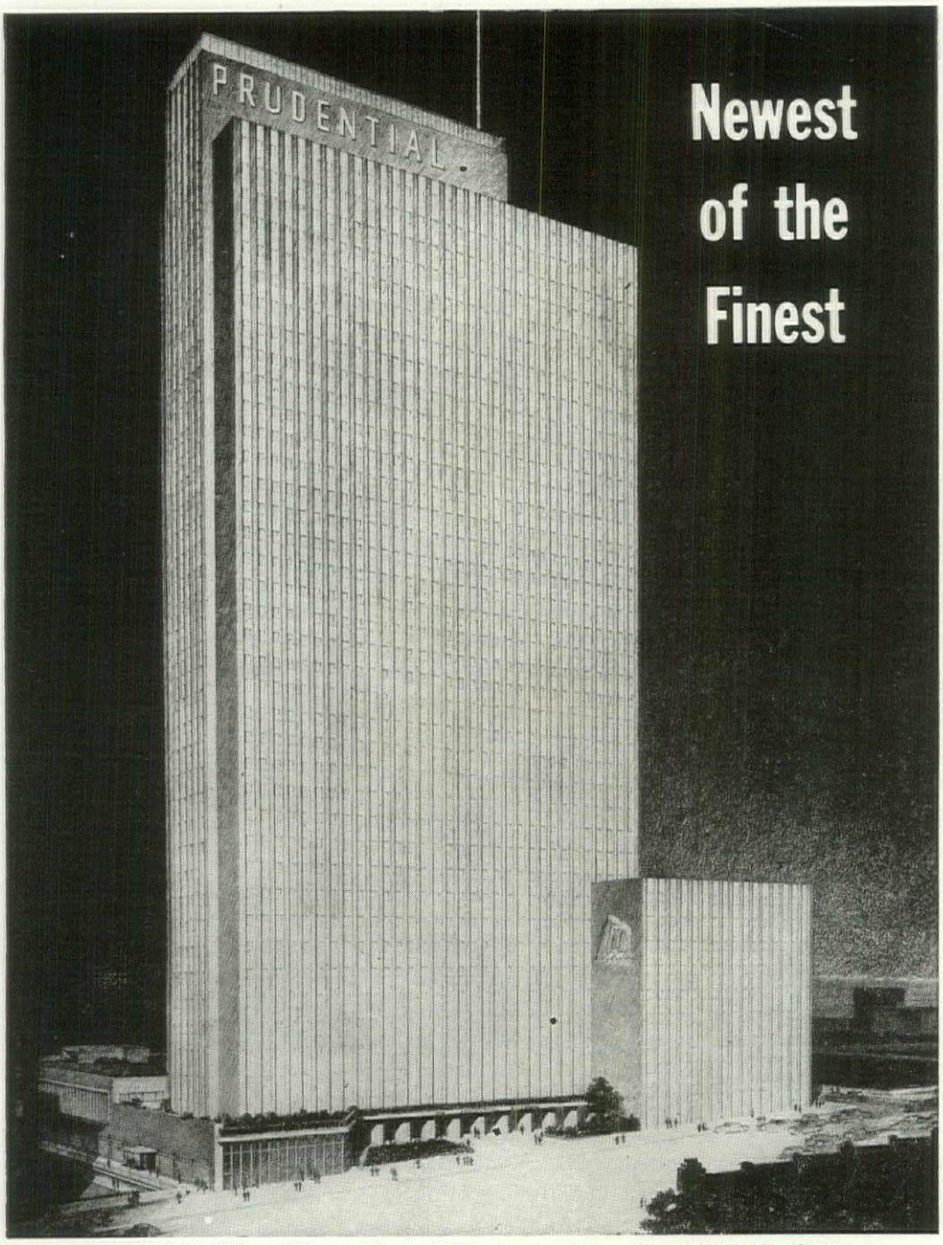
His best-known buildings in between included pace-setting cinemas, department stores and factories throughout Germany and central Europe; the Hadassah-Rothschild University Hospital in Jerusalem, the residence of the late Dr. Chaim Weizmann, first president of Israel; in the US his ill-fated Maimonides Hospital (AF, Feb. '51) and an imposing sequence of synagogues. Of these St. Louis and Cleveland were completed; Baltimore, St. Paul, Grand Rapids, and Dallas on the way (AF, Apr. '53).

At Mendelsohn's request the eulogy at his funeral was delivered by **William Wilson Wurster,** dean of the University of California school of architecture. Said Wurster: "In a day when narrow proprietory



Huge hotel, office and shopping center planned in Washington

Financing was still elusive, but a Washington syndicate announced it expected to start construction early next year on a $70 to $80 million contemporary hotel, office, shopping center and garage development on an 11.5 acre tract overlooking the Potomac River near the Lincoln Memorial. Plans by Architects Harrison & Abramowitz call for a 1,003 room hotel, 225,000 to 300,000 sq. ft. of offices (hotel and one office building estimated to cost about $30 million together shown above). George Preston Marshall, laundryman and owner of the Washington Redskins obtained an option on the site (price $3.8 million) and organized the syndicate, which also includes John W. Harris Associates of New York, who erected the Washington Statler, and former Statler chairman John L. Hennessy.



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As a building, it will take its place among our country's finest structures and is a perfect example of the features a well-informed investor is willing to put into the space he plans to use and rent. For instance, to prevent future obsolescence and to meet the increasing requirements of modern electronic office equipment, architects Naess & Murphy have prepared the new Prudential Building to handle the highest electrical load of any office building yet built. To do this job easily, and to permit layout changes and additions at minimum cost, Robertson Q-Floor construction is being used. This strong, light-weight, steel, cellular structural floor is the only construction material available which provides easy electrical access over every 6-inch area of the entire exposed floor. For more good reasons why fine new buildings all over America have turned to Robertson Q-Floor construction, see the opposite page.

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dogmas threaten to stifle and dehumanize the modern movement in architecture, even before it has come to its maturity, Mendelsohn stood for freedom, imagination and creative individual leadership."

Calvin K. Snyder, since 1946 the chief Washington lobbyist for the nation's 50,000 organized realtors, quit last month to become, on Sept. 15, secretary of the Chamber of Commerce in Denver. In his seven years as secretary of the Realtors' Washington Committee, Cal Snyder had waged his principal battles against rent control (now moribund) and public housing (now on the ropes). His best method: building fires in local communities to influence Congressmen through their constituents. Snyder worked quietly. He shunned table pounding, bombastic press releases.

LIFE—*George Skadding*



SNYDER

It was not because his long political battles seemed ending that Snyder left NAREB's legislative arm. It was, said men in a position to know, because he felt unsure he was in line to replace NAREB Executive Vice President **Herbert U. Nelson,** 66, who is supposed to retire when a successor is found. Pennsylvania-born Snyder, now 44, spent 12 years as an Elmira, N. Y. newsman, rising from reporter to wire editor to ad manager.

The Associated General Contractors of America shuffled some top titles at its Washington headquarters last month. The objective: to ease the work load of Managing Director **H. E. (Doc) Foreman,** 56, who has a heart ailment. Assistant Managing Director **James D. Marshall,** 65, was boosted to executive director. AGC said Marshall would carry the main administrative load while Foreman devotes more time to "policy." **William E. Dunn** was named labor relations manager and will take over most of this work formerly handled by Marshall, although Marshall will still supervise labor policy and represent AGC on construction labor committees. **Edward T. Kelly** was named labor service advisor, **James M. Sprouse** manager of the heavy construction-railroad division.

Reni



MARSHALL

Marshall was manager of the Minnesota AGC chapter from 1925 to 1934, when he joined the national staff. As a construction labor specialist he was a founder of the

National Joint Board for the Settlement of Jurisdictional Disputes. During World War II, he was an employer member of the construction industry Wage Adjustment Board. During the Korean war, he was a member of the Construction Industry Stabilization Commission.

How much could construction offset a recession, if one comes? One of the first acts of **Dr. Arthur F. Burns,** Eisenhower's top economic adviser, was to call in two experts to give him some answers and to blueprint machinery for the government to step up construction if there is a business downswing. They were **Robinson Newcomb,** who has been a federal construction economist since the Hoover regime, and **Prof. R. J. Saulnier** of Columbia University, a specialist in housing and finance. Their report was being kept under wraps. But indications were that they could foresee ways to step up federal civil public works and military public works by about $1 billion each in a year's time. The big shortage discovered was of plans. Congress has authorized about $16 billion of federal construction for future years, but only $2.6 billion of it is blueprinted, with another $4.4 billion on drawing boards. Some authorities estimate another $3.6 billion of state and local projects are planned and ready—for a total of $10.6 billion. The need for public works has been estimated as high as $100 billion. By getting more of it planned now, Ikemen hoped to avoid the experience of early New Deal days when plans were so lacking it took Harold Ickes 18 months to get 100,000 men to work on building.

Sometimes architectural and city planning services can interfere with each other in the same organization. At least, so thought New York's famed Harrison, Ballard & Allen. This month, still friendly as ever, they were splitting into two firms. Under **Frederick Allen's** sole ownership Harrison, Ballard & Allen, Inc. will offer only city planning services. Heading a new company under his own name, **William F. R. Ballard** will handle architectural work exclusively. (**Allan S. Harrison** retired from the original organization two years ago, shortly after it completed its comprehensive but still unadopted plan for rezoning New York City, AF, Sept. '50.)

Last year, arrangements for a group of AIA architects to inspect architectural and reconstruction progress in Germany as guests of the West German government went awry in a politico-protocol snafu. Instead, the group, led by German-speaking **Arthur Fehr** of Austin, Tex. made a four-week flying trip last month. Others in the



Beyond the fact that Q-Floor offers the greatest electrical availability of any structural floor in existence (as indicated in the above illustration), there are several other vital reasons why it has become a part of the finest new buildings in America.

Q-Floor saves construction time and money. The steel cellular units come on the job cut to fit so that two men can lay 50 square feet in one minute. In the case of the U. S. Steel-Mellon Bank Building in Pittsburgh, forty floors were installed in four months. Because Q-Floor provides a perfect platform for work and storage, 1,000 men were able to operate on the job without interfering with each other. Q-Floor saves steel as a result of its favorable ratio of weight to strength. Footings and structural steel can be lighter than with ordinary construction. Moreover, Q-Floor saves drafting room time since completely predetermined wiring and mechanical layouts are not necessary. Because no combustible forms and shoring are required, there has never been a construction fire on a Q-Floor job. Add these features to low cost on wiring changes in the years to come, and it's easy to see why Q-Floors are a feature of America's finest new buildings.

The Robertson Technical Library contains data books on Q-Floor which should be part of every architectural and engineering library. Write to us.

Robertson

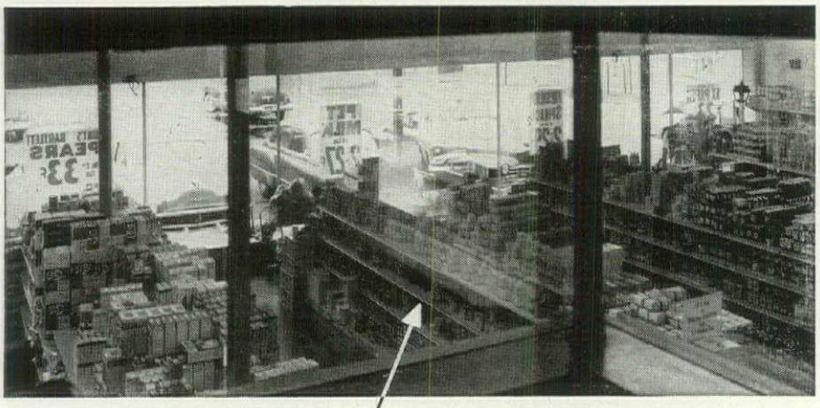
Q-Floor

a product of **H. H. Robertson Company**

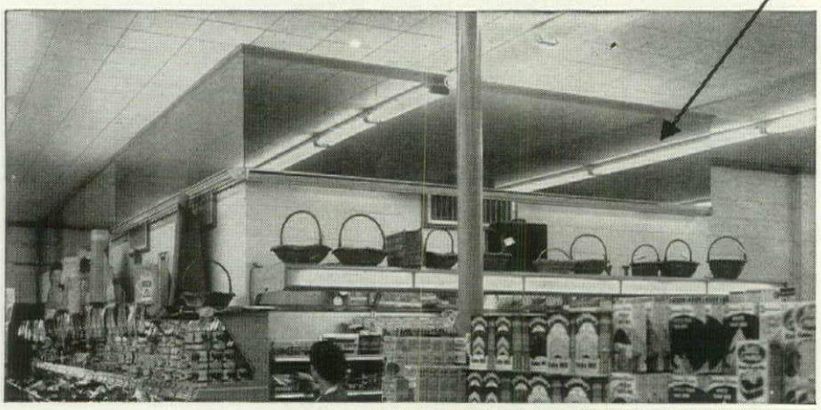
2403 Farmers Bank Building • Pittsburgh 22, Pa.

In Canada: Robertson-Irwin Ltd., Hamilton, Ontario

In England: Robertson Thain Ltd., Ellesmere Port, Cheshire



From this side it's a window / From this side it's a mirror



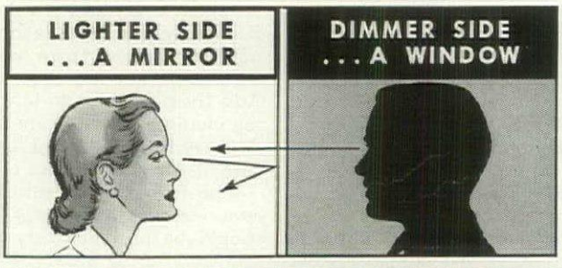
Architects: Sanzenbacher, Morris and Taylor, Toledo, Ohio.

How to Stop Shoplifters

*Mirropane** transparent mirrors are a proved cure for shoplifting losses. In many cases they have helped to reduce high losses from pilferage almost to zero. They can be installed to give the observer a clear view of the shopping area, yet all the customer sees is a reflection.

You can see through *Mirropane* when there is brighter light on the other side. When it's the other way—bright on the observer's side, dim in back of the glass—*Mirropane* reflects like a mirror.

Mirropane has many other possibilities—for observing special classes in schools and hospitals, for changing decorative effects in restaurants, lobbies and lounges. For more information, call your L·O·F Glass Distributor or Dealer, listed under "Glass" in classified telephone directories in many principal cities. *®



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Was age beginning to tell on Houston Architect **Karl Kamrath,** 42? Last year he and Karl Jr., 17, won the national father & son tennis championship. Last month at the Longwood Cricket Club in Brookline, Mass. they were defeated in the semi-finals by a non-architect team. In the quarter finals, Kamrath & son trimmed **G. Holmes Perkins,** Pennsylvania University fine arts school dean, and *his* son, Gray H., 6-2, 6-1, and they still claim the "unofficial AIA father-and-son championship." The Kamraths won the Texas father & son championship for the third year in a row.

Lawrence Ottinger, 69, who founded US Plywood Corp. in 1919 with a borrowed $500 and built it into the world's biggest

Maurey Garber



OTTINGER



ANTOVILLE

plywood producer (gross 1952 sales: $116 million), announced he was relinquishing the post of president while remaining chairman and chief executive officer. His successor as president: **S. W. "Tony" Antoville,** 52, who took a summer job with the infant (seven-man) company in 1921 as a peddler at $20 a week. Ottinger observed the temporary worker's ambition and enthusiasm, at the end of the summer talked him out of returning to law school. Antoville became sales vice president in 1943. Originally US Plywood was only a sales organization. In the 30s, it began manufacturing. Next major plan: invading the wholesale lumber field because its constant mill expansions are producing an increasing volume of excess lumber that cannot be used for plywood.

CONGRATULATIONS: To bridge Engineer **Othmar H. Ammann,** former TVA Chairman **Dr. Arthur E. Morgan,** former Reclamation Commissioner **John C. Page** and **Charles M. Spofford,** Hayward Professor emeritus, MIT civil engineering department, elected to honorary membership, highest award of the American Society of Civil Engineers; **George Vernon Russell,**

recipient of the AIA Award of Merit for designing the Republic Supply Co. division headquarters at San Leandro, Calif. (AF, Aug. '53), appointed advanced design critic at the University of Southern California school of architecture; Editorial Director **Raymond P. Sloan,** elected president of *The Modern Hospital* Publishing Co. succeeding the late **Dr. Otho F. Ball.**

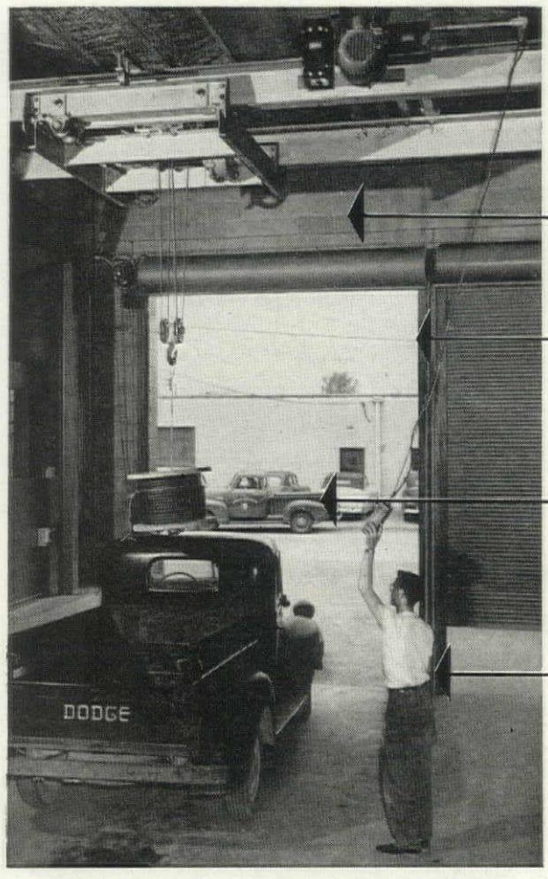
NAMED: **Arthur G. Rydstrom,** formerly with the **Claude K. Boettcher** organization in Denver, as senior vice president of Webb & Knapp, Inc. to head a western headquarters in Denver; President **James M. Kennedy** as board chairman and chief executive officer of Revere Copper & Brass, succeeding **James J. Russell,** who died Aug. 1, and **Charles A. Macfie** as president; **Henry M. Reed,** recently resigned vice president of American Radiator & Standard Sanitary Corp. as president of General Plywood Corp. succeeding **Carl Robbins,** resigned.

Fred Chase resigned as executive secretary of the California Council of Architects effective Dec. 1, will start a public relations firm. Architect **Bourn Hayne** of San Francisco volunteered to fill the role for one year, but action on a successor and possibility of maintaining both a Los Angeles and San Francisco office was put over to the AIA state convention next month.

Personalities going and coming on the Washington scene:

Labor Secretary **Martin P. Durkin** resigned, will resume the presidency of the AFL Plumbing and Pipe Fitting international (page 41). Anticipating abolition of the Armed Forces Housing Agency despite a Rockefeller committee rcommendation to keep it, Homebuilder **Thomas P. Coogan,** who ran it without compensation since it was established in Jan. '52, resigned (as forecast in FORUM last month). ODM appointed former Rent Stabilizer **Glenwood J. Sherrard** as an assistant director to plan price, wage and rent controls for any new emergency and appointed **Joseph Keenan,** secretary of the AFL Building Trades Council, as an assistant to the director on labor matters.

DIED: **Raymond John Daum,** 64, former AGC treasurer and member of the Los Angeles Board of Building and Safety (1939-43) for which he was chairman of a committee that rewrote the city's building code, Aug. 6 in Los Angeles; **Paul E. Jeffers,** 64, president of the California Board of Registration for Civil and Professional Engineers, engineer for construction of Los Angeles' Biltmore Hotel, Aug. 7 in Los An-



No Overhead Space Lost

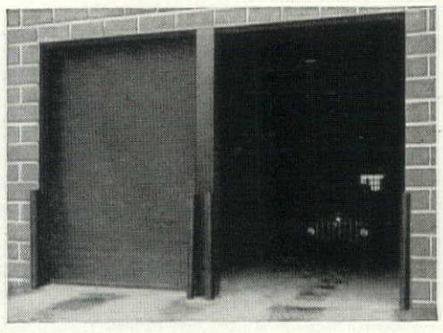
No Wall Space Lost

Opened Door Clears Entire Doorway

Wind or Storm Can't Damage Doors — Open or Closed!

because they're

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You can see some of the many advantages Kinnear Rolling Doors bring to all types of service opening in this warehouse installation.

Coiling compactly above the lintel, Kinnear Rolling Doors *never get in the way of the overhead conveyor.* And since they need no wall space for either storage or operation, posts, walls, windows or other doors can be placed flush with the door jambs on both sides of the opening.

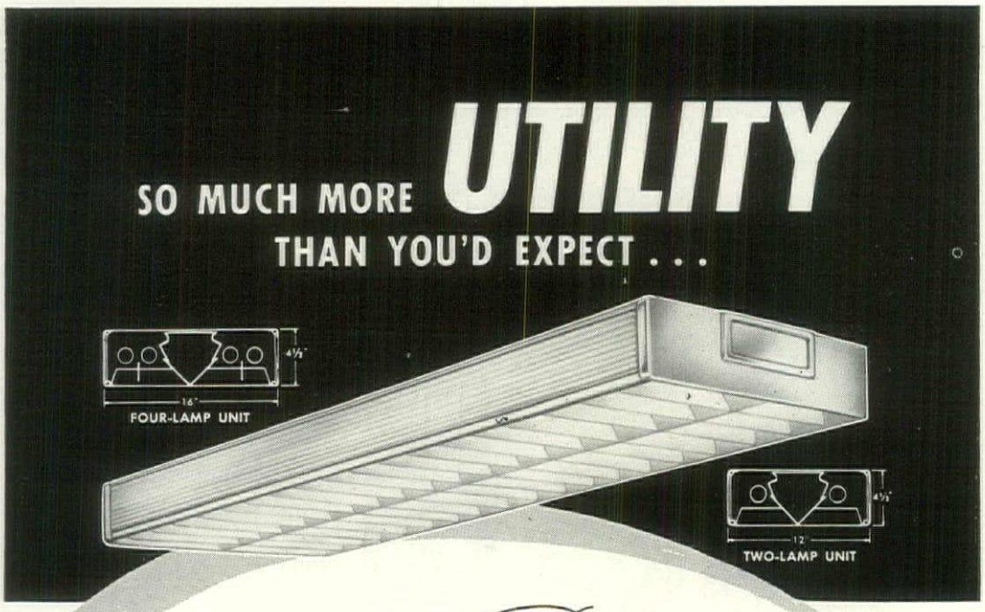
These and other space-saving conveniences are in addition to the long-wearing ruggedness, fire resistance, and protection of Kinnear's interlocking steel-slat curtain. Their coiling action is also ideal for motorized, push-button control.

Kinnear Steel Rolling Doors are built to fit opening of any size, in any building, old or new. Write today for full information.

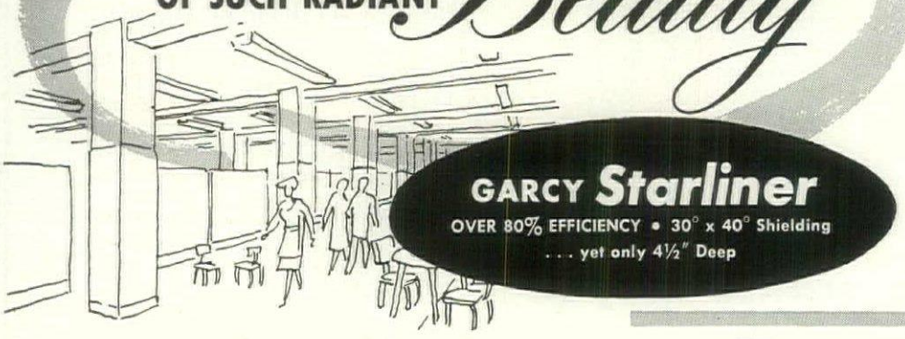
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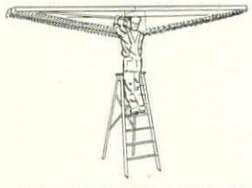
Slim, trim and functional in appearance, the Garcy Starliner lends itself beautifully to contemporary styling. When surface mounted, its shallow contour economically simulates built-in lighting.

Yet within its compact design, this luminaire embodies every wanted feature. Side panels of Corning's Alba-lite glass are attractively framed in protective metal rails . . . promote efficient light distribution while contributing to proper brightness control. Garcy's louver design provides 30° x 40° shielding.

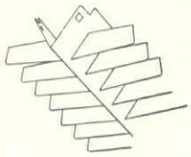
The Starliner is superbly made . . . note the round edges on end plates and side rails. Economically installed, easily maintained. Available as two-lamp or four-lamp units in 4 ft. or 8 ft. lengths for standard fluorescent, rapid start or slimline lamps. Write for Bulletin L-134.



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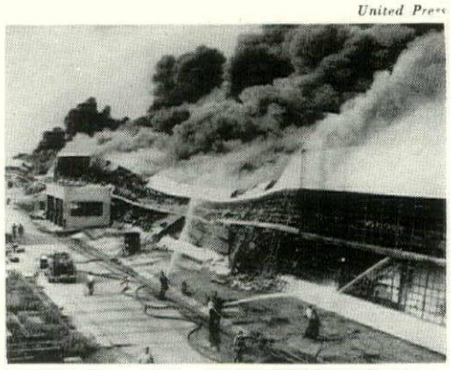
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geles; **George M. Brown,** 86, founder and head of Certain-teed Products Co. (roofing, linoleum, beaverboard) until his retirement in 1936, Aug. 10 in New York; **Thomas Edward Snook,** FAIA, 89, head of the AIA contract documents committee when it drafted many forms now in use, former AIA Brooklyn chapter president and designer of New York City stores and large residences, Aug. 14 in New Windsor, N. Y.; **Ernest E. Howard,** 73, noted bridge designer, senior partner of Howard, Needles, Tammen & Bergendorff, 1950 president of the American Society of Civil Engineers, Aug. 19 in Kansas City, Mo.; **Dodge A. Riedy,** 64, city architect of San Francisco since 1938 and previously a designer of schools and public buildings, Aug. 28 in San Francisco; **Walter T. Karcher,** FAIA, 72, designer of Swarthmore College and Lawrenceville School buildings, former Philadelphia AIA chapter president, Sept. 4 in Philadelphia; **Thomas F. Armstrong,** 84, former president of the National Terra Cotta Society and the Master Builders Exchange, Sept. 8 in Philadelphia.

United Press



Livonia fire alters thinking on plant protective design

The $40 million holocaust last month that wrecked General Motors' Livonia, Mich. Hydra-Matic transmission plant also upset many a comfortable concept about fire protection. The Livonia plant suffered the worst single-plant fire disaster in history. It was about as well protected as 90% of US factories. Despite steel frame construction and a sprinkler system (which covered only 15% of the plant), Livonia's tar and pitch roof collapsed after flames ignited by a welder's torch spread up through the plant.

Livonia's plant had only $28 million coverage because insurance men thought it could not suffer such a catastrophe. This month, the stunned experts had about decided where their miscalculation lay: they had not reckoned with the hazard of the tar and pitch roof, weighing 2,000 tons, over the 18-gauge steel deck. When heat melted the tar, the deck sagged and total collapse followed. To make both new and existing factories safer, the Factory Insurance Association and construction engineers were drawing recommendations for changes requiring more sprinklers, curtain boards, better ventilation. The Chicago Tribune also speculated: "If it is at all possible there will be an end to 1,200' of unbroken factory areas without fire doors."

PUBLIC HOUSING *continued*

Yet to assume automatically that the commission will urge public housing be ended oversimplified the problem it faces. Most commission members would probably agree that public housing 1) costs more than the US can afford to pay for as many units as are said to be needed, and 2) therefore creates a privileged class of citizens who, owing their shelter to politicians in power, are becoming kept voters. But would a Republican policy group be able to agree on an alternative program? If not, would it seem too risky politically to recommend an end to rent-subsidized apartments? On the other hand, if public housing threatens the basic health of private housing, as many industry leaders believe, could the policy group dare *not* urge it be halted? The question invited Gordian solutions.

Race riot in Chicago. Across the country, public housing encountered multiplying troubles. The worst of them was in Chicago.

▶ In July, Negro Mailman Donald Howard, 25-year-old ex-GI moved with his family into all-white Trumbull Park, a 462-unit public housing project near the steel mills in South Chicago. On Aug. 10 came the racial explosion that police feared. They bore down on Trumbull Park to find an ugly crowd of 3,000. Teen-agers were breaking the windshields of Negro-owned autos; someone threw a brick through the window of a tavern which had served Negroes; anonymous voices were threatening to throw the Howards out of their home.

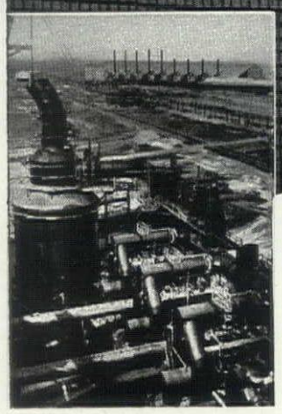
Ever since a race riot ran wild in suburban Cicero in July 1951, Chicago's police had been drilled for such an outbreak. Using their billies like bayonets, the cops poked a rough path through the mob, arrested 30 of the leading troublemakers, threw a cordon around the area, closed the taverns and put a 24-hour-a-day guard on the Howards. The Housing Authority also responded to the problem. It ordered Negroes admitted to the city's four remaining all-white projects. One result: on Aug. 27, a series of incendiary fires broke out near Trumbull Park and a crowd stoned police who tried to restore order. To Chicago cops, it was all in a day's work. Since Jan. 1, they had quelled six other major race disturbances without anyone suffering serious injuries. Last month, they were maintaining round-the-clock details at the homes of 25 Negroes who had recently moved into former white neighborhoods.

▶ In New York, public housing ran into signs of money trouble. The day after PHA announced another $125.2 million tax-free housing bonds would be offered Sept. 22, one of the two syndicates that have been buying them announced it was no longer interested. The group, known as the "bank dealer" syndicate and headed by Manhattan's Chemical Bank & Trust Co., charged there had been "all too frequent" offerings of housing bonds in a tax-exempt market that promised to be cluttered with a huge supply of other issues before year's end. Both the bank group and the "dealer" syndicate (which said it will remain in the market for tax-free housing bonds) have been under increasingly sharp criticism by private enterprisers for buying them. NAREB renewed this attack last month with testimony that tax-free bonds yielding 3% would net a person in the $50,000 to $60,000 individual income bracket as much as a tax-paying bond at 13.04%!

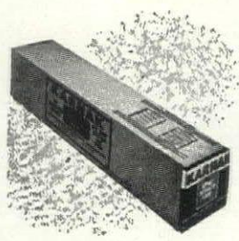
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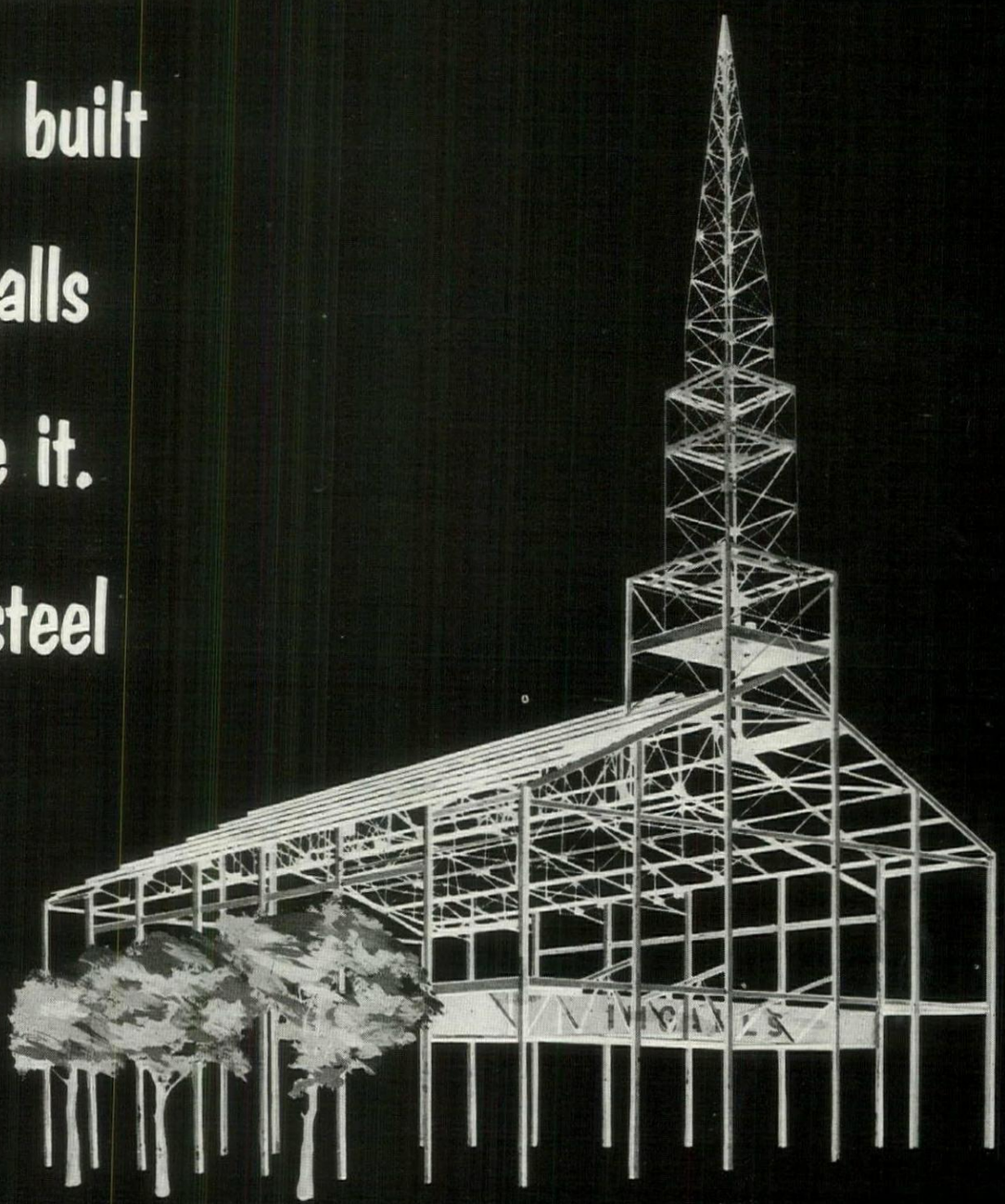
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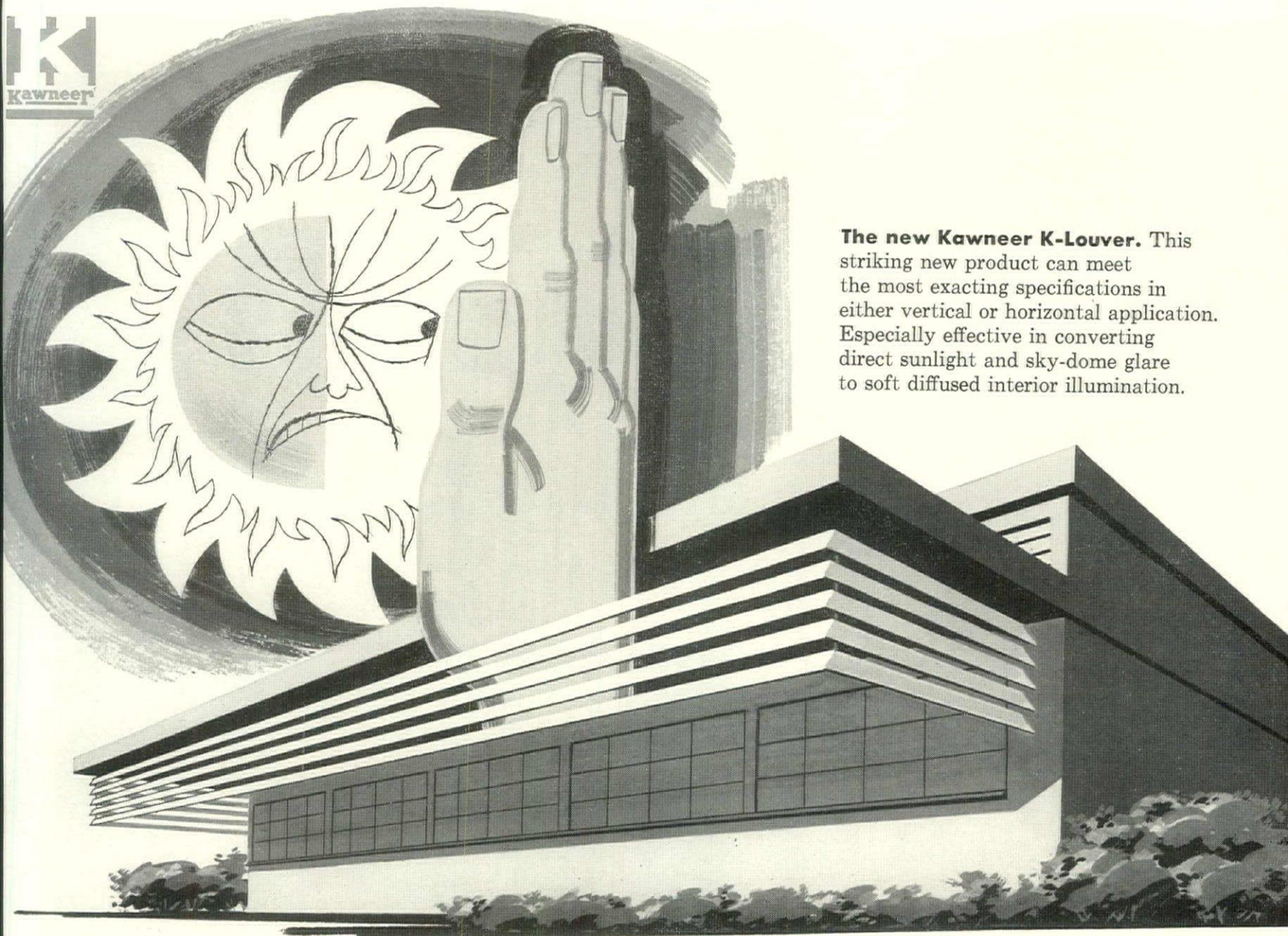
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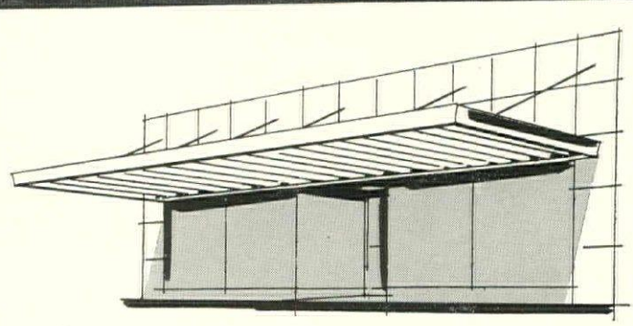
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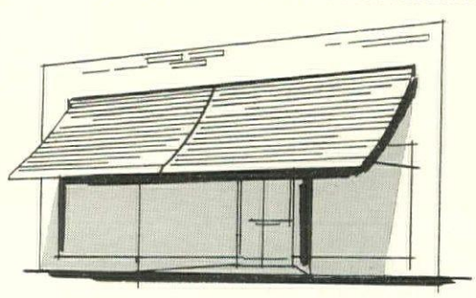
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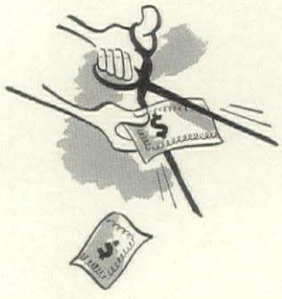


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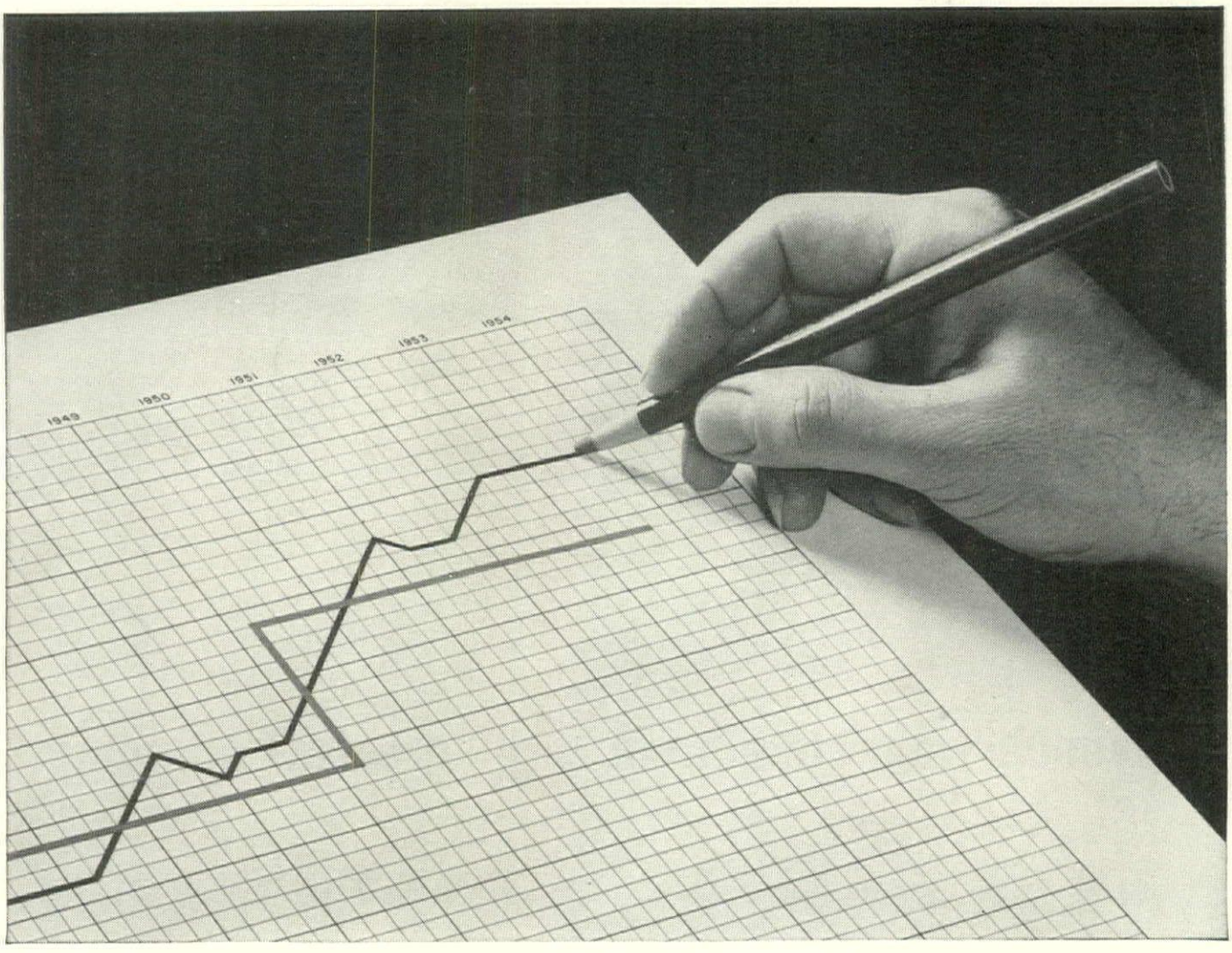
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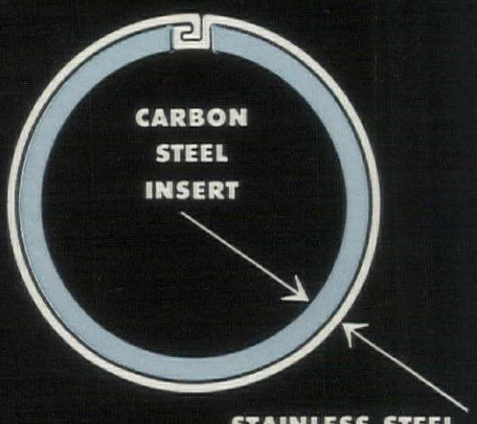
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Van Huffel stainless clad tubing combines strength and rigidity with protection from rust, corrosion and excessive wear.

Using stainless steel lock seam tubing for the outer shell and inserting open seam carbon steel tubing provides the special advantages of solid metals at considerably less cost.

Ideally suited for bus stanchions and grab rails; cafeteria tray slides and railings; or wherever beauty, strength, protection and economy are requisites.

Available in sizes ⅝" O.D. to 1.9" O.D.; Stainless Gauges .018 to .035; Insert Gauges .035 to .078.

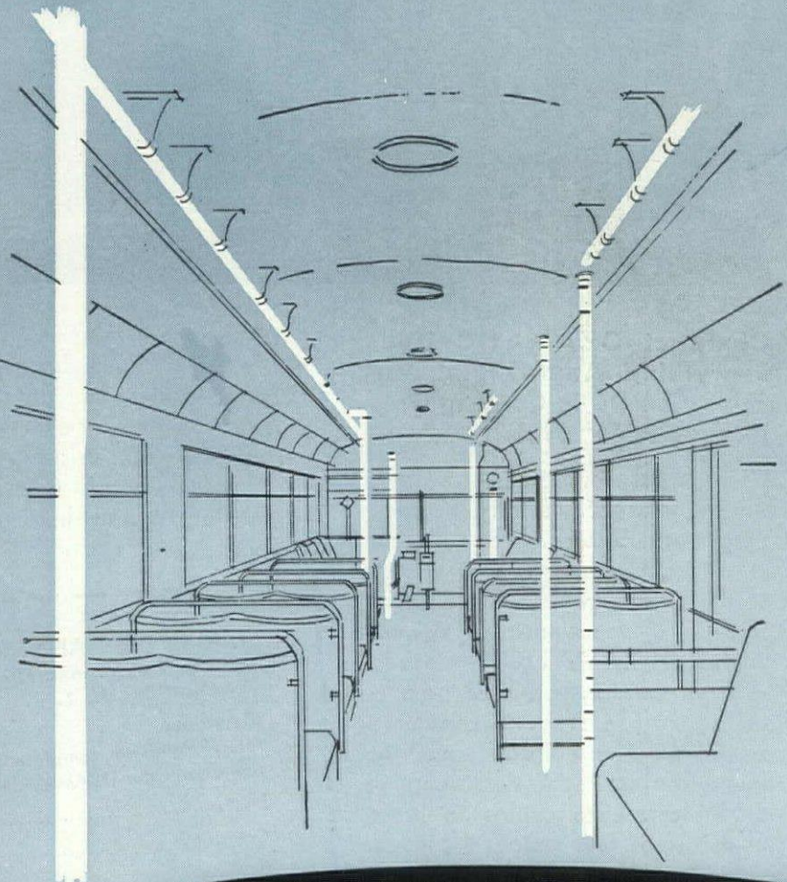
THE ONE TUBING WITH THESE FOUR ADVANTAGES

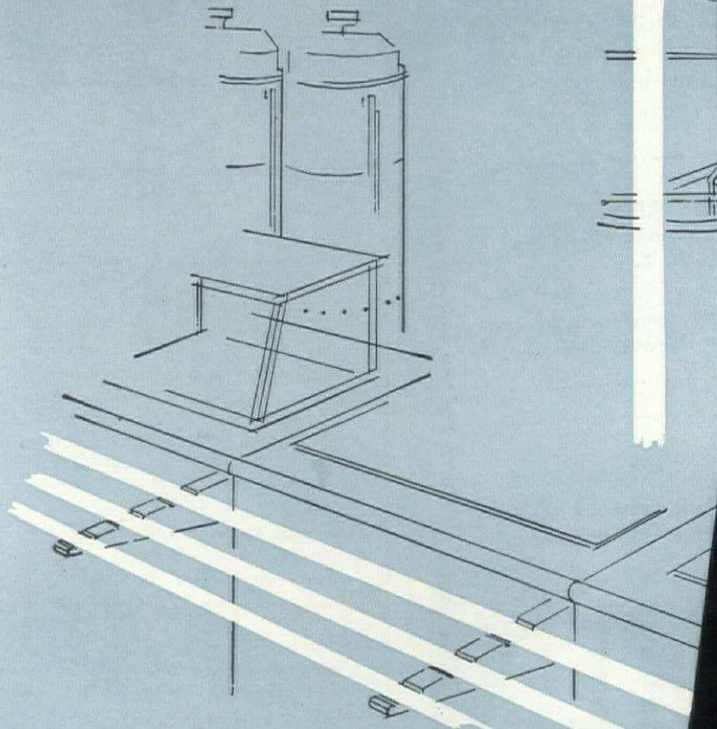
BEAUTY – The stainless steel outer shell provides attractive appearance.

PROTECTION – Never any rust or corrosion to worry about.

STRENGTH – The carbon steel insert supplies the "backbone."

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EVENTS

AIA regional meetings: Gulf States at Biloxi, Miss., Sept. 17-19; Great Lakes States at Detroit, Sept. 18-19; Pennsylvania Society at Lancaster, Pa., Sept. 18-19; New York State at Lake Placid, N. Y., Oct. 8-10; Northwest States at Sun Valley, Idaho, Oct. 9-11; Ohio Society at Youngstown, Ohio, Oct. 14-16; California Council at Coronado, Calif., Oct. 14-17; Central States at Des Moines, Iowa, Oct. 15-17; Middle Atlantic States at Washington, D. C., Oct. 21-23; Texas Society at Austin, Tex., Nov. 4-6; Florida Association at St. Petersburg, Fla., Nov. 19-21.

Third International Congress of Architects at Lisbon, Portugal, **Sept. 20-28.** All architects invited. For information and program, address: Secretario do Congresso, Rua de S. Bernardo 14, Lisbon, Portugal.

Midwest Conference of Building Officials & Inspectors at the Hotel Lowry, St. Paul, Minn., **Sept. 21-23.**

Good Design 1953, selections from the Chicago exhibition, **Sept. 23—Nov. 29** at the Museum of Modern Art, New York, N. Y.

National Electrical Industries Show at the 69th Regiment Armory, 26th St. and Lexington Ave., New York, N. Y., **Sept. 29—Oct. 2.** Adequate wiring will be the theme.

American Association of Mechanical Engineers' fall meeting **Oct. 5-7** Hotel Sheraton, Rochester, N. Y.

International Churchman's Exposition at the Chicago Coliseum **Oct. 6-9.**

Society of Industrial Designers' annual design conference **Oct. 16-18,** Bedford Springs, Pa.

Pacific Coast Building Officials Conference's annual meeting **Oct. 20-23** at the Huntington Hotel, Pasadena.

National Savings & Loan League's fall conference **Nov. 8-11,** Casablanca Hotel, Miami Beach.

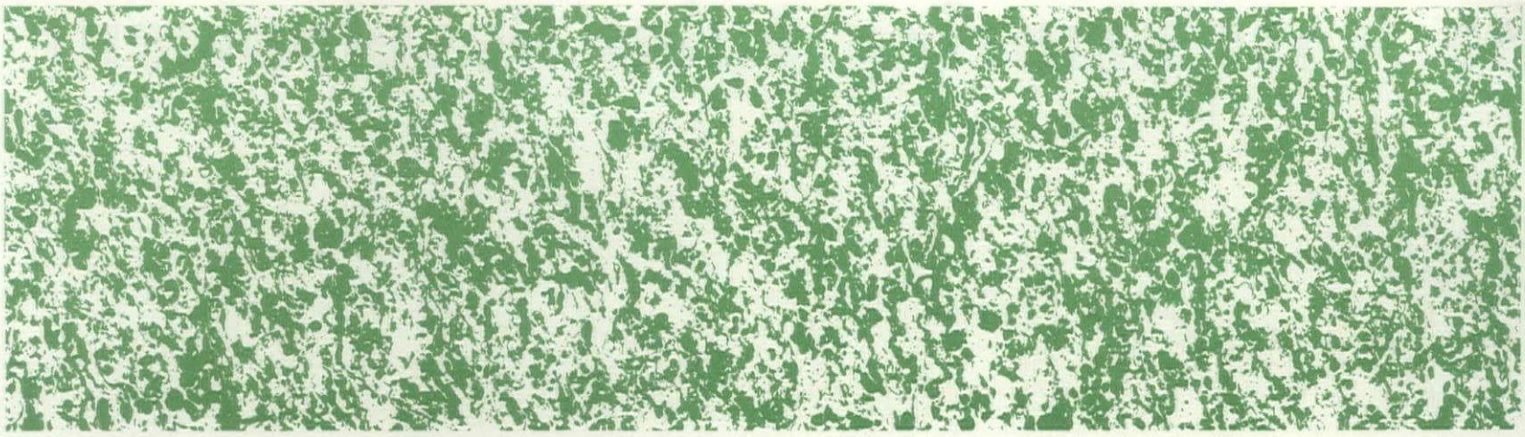
National Association of Real Estate Boards' annual convention **Nov. 8-14,** Statler and Biltmore Hotels, Los Angeles.

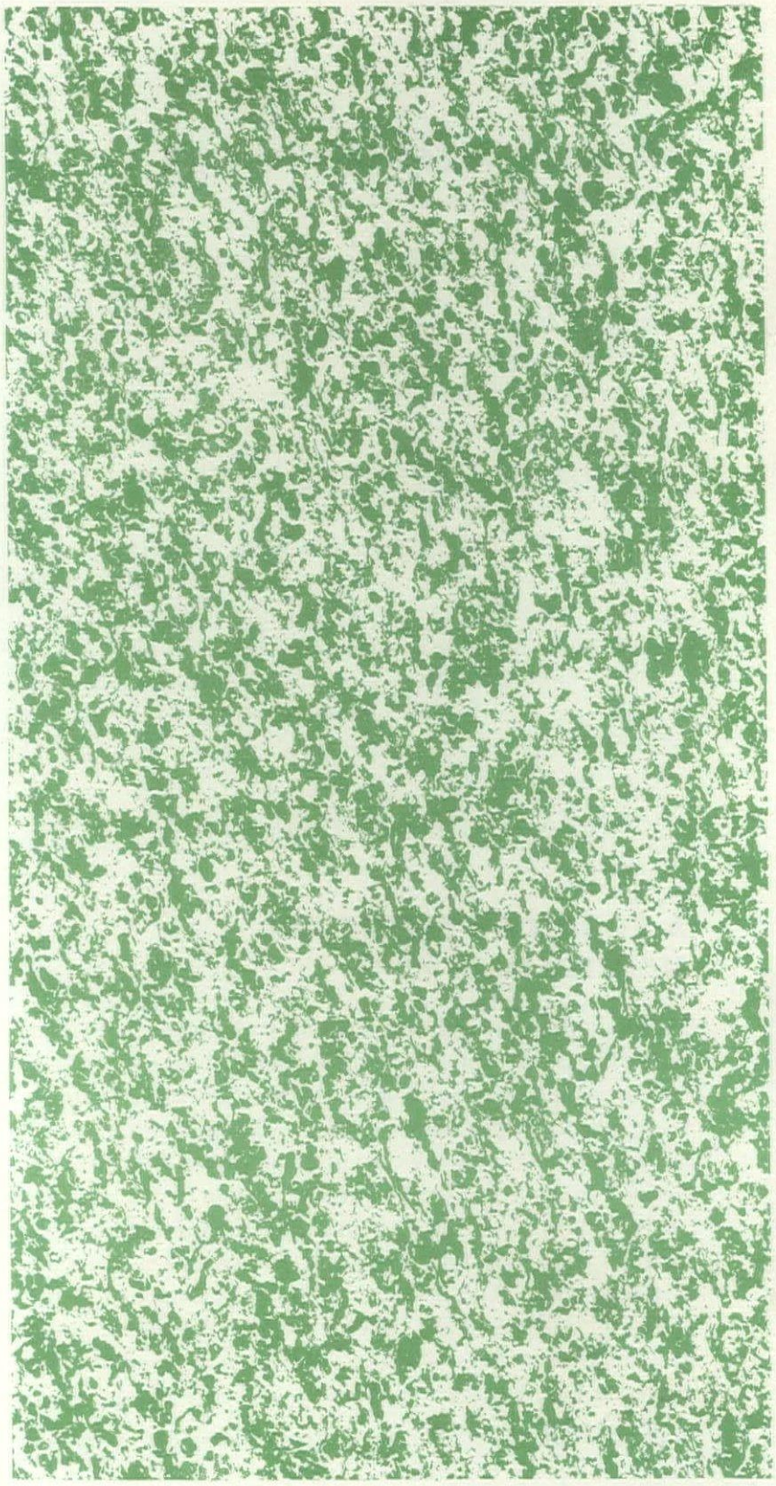
Refrigeration and air conditioning's eighth all-industry exposition at the Public Auditorium, Cleveland, **Nov. 9-12.** Hotel reservations may be made through Housing Bureau, Cleveland Convention Bureau, Terminal Tower, Cleveland.

Building Research Advisory Board's conference on uses of porcelain enamel as a large-scale structural material **Nov. 12-13** at the National Academy of Sciences, Washington, D. C.

Mortgage Bankers Association of America's annual convention **Nov. 13-19,** at Miami Beach.

The American Institute of Steel Construction's thirty-first annual convention **Nov. 30—Dec. 4** at the Boca Raton Hotel and Club, Boca Raton, Fla.





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A REVOLUTIONARY NEW COLOR RESOURCE FOR ARCHITECTS

Color with brushed-on paint has been limited to solid tones or wipe-on coats. Multicolor effects have been achieved by time-consuming effort, or the use of expensive wall coverings.

Now, with color-flecked, textured PLEXTONE, you can create unlimited multicolor combinations of contrasting hues of solid colors and achieve the subtle beauty of *textured* wallpaper. The color flecks in PLEXTONE are "through-the-film." They are part of the film and cannot wash nor wear off.

Color-flecked PLEXTONE produces a lasting bond to any material commonly used in building interiors—plaster, gypsum wallboard, hard board, plywood, solid wood. concrete and metal—and makes possible dramatic color schemes no matter what the underlying surface. One easy-to-apply spray-coat *completely covers* primed dry wall seams and minor imperfections in interior finish.

AN EASY-TO-USE COST-CUTTER FOR BUILDERS

Color-flecked PLEXTONE is applied in *one coat* with ordinary spray equipment. It bonds tightly to all common building materials. *One coat* completely covers minor imperfections in primed taped wallboard joints, trim, plaster and other interior finish — eliminates costly preparation work on the paint job.

There is no spray dust! Result: A quick, easy job — no "do-overs" — no messy clean-up.

Color-flecked PLEXTONE can be applied to interior surfaces — in new construction or in building modernization — *before* plumbing and lighting fixtures are installed. Color-flecked PLEXTONE is amazingly resistant to chipping and abrasion — stands hard scrubbing, abuse — and touch-ups defy detection! Soil marks left by workmen are easily washed off. Minor damage can be covered with a quick touch-up that *cannot be detected!*

A NEW VEHICLE FOR DECORATORS

Would you like to see in one spray coat . . .

• a *textured* painted surface with hiding power of the best stippling • the dramatic effect of the most skillful spatter-dash painting • the restrained beauty of high-grade textured wallpaper?

You can produce all three — color, *texture* and spatter-dash effect — in one easy-to-apply coat with color-flecked textured PLEXTONE. Subtle tones-on-tone, or a circus of brilliant colors can be sprayed at *one time, from one gun, in one coat that covers COMPLETELY!*

You can choose from twelve color-flecked PLEXTONE colors styled by Beatrice West, famous Color Consultant and Interior Designer, for modern or traditional interiors, or for large projects you can create your own palette of PLEXTONE. Color-flecked PLEXTONE is *flat* and gives a *textured* surface when applied. It adheres firmly to *all* commonly used interior structural materials.

A BOON TO OWNERS AND MAINTENANCE MEN

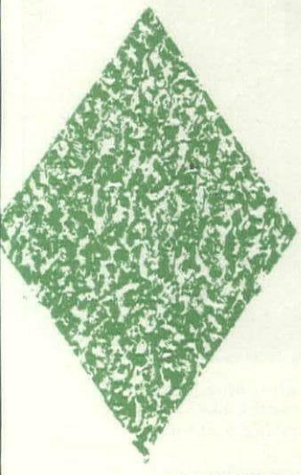
Maintenance men can now look on with steady nerves and normal blood pressure as children romp through school halls and smudge and smear them — as the careless delivery man bumps and scrapes his way into the building — as the doodlers mark and scrawl. With color-flecked PLEXTONE no *real* harm is done. Ink, mercurochrome, crayon, pencil, and other soil can be whisked away with common household solvents, detergents or soap and water. Or you can even sandpaper stubborn spots. And if some really rambunctious individual gives color-flecked PLEXTONE a workout, nicks and gouges can be covered up with a once-over spray *so completely* and perfectly that the touch-up job will defy detection.

Color-flecked PLEXTONE cuts maintenance cost way, way down. It can be cleaned thousands of times with soap and water — or scoured with abrasive kitchen cleansers — without affecting its original rich, *textured* color-flecked beauty.

In 100 Years

Can you imagine a one-coat flat interior enamel — integrally color-flecked with one or more harmonizing colors — that has the soft beauty of wallpaper — yet so rugged that it can be sandpapered without marring the surface? That's PLEXTONE — the NEW color-flecked miracle paint of the Century!

ENAMEL



COLOR-FLECKED **PLEXTONE**

"WILLIAMS GREEN"

One of twelve decorator color combinations styled by Beatrice West. Also available in twelve solid colors and in custom colors for large projects.

Thousands of homes, apartments, offices, schools, hospitals, housing projects, and other types of structures have already been painted with color-flecked PLEXTONE. Here are typical comments from recent letters:

". . . we like it more as time goes on. Its toughness and washability have won it many friends."*

"Your Plextone was a real 'conversation piece' among the crowds that saw the houses. There is no doubt Plextone helps promote sales."*

". . . five days after the opening of the sample house, forty homes were sold. Plextone has been a fine sales feature . . ."*

*names on request

FACTS ABOUT AMAZING *COLOR-FLECKED* PLEXTONE

- one spray coat covers completely
- easy to apply with ordinary spray equipment and spray techniques
- no spray dust
- bonds firmly to all common interior building materials
- covers minor imperfections in interior finish
- comes ready-to-use
- finish is flat
- color flecks are "through-the-film" — will not wear off
- finished job has *textured* surface
- decorator colors styled by Beatrice West — twelve color-flecked, twelve solid
- custom colors for large projects
- cleans easily
- stands hard scrubbing and scouring
- stands abuse — resists wear, abrasion, chipping and cracking
- can be touched up without showing



Give color-flecked PLEXTONE the "3-way" test. Mark it with the Kiddie's favorite wall devastator — Wax Crayon! Then . . . . .

1. Clean it with alcohol, gasoline or carbon tetrachloride
2. Wash with soap and water or a detergent and water
3. Sandpaper any faint traces of color left with 00 sandpaper — you'll not mar the surface.

Prove it yourself! Send for *FREE* jumbo color chips, PLEXTONE sample and complete application data today.

MAIL COUPON NOW!

Insurance and Mortgage Companies, Realty Operators, Government Officials, Institutions, Educational Groups please ***NOTE!***

Color-flecked PLEXTONE cuts maintenance costs way, way, way down!

PLEXTONE *is tough* — That's why it stands up under the bumps and scrapes of daily use.

PLEXTONE *is more durable* — its film is harder and thicker than ordinary paint. Saves cost of frequent repainting.

PLEXTONE *does not stain* — Crayon marks, ink, candy stains, grease, dirt and other soil are removed quickly without surface damage.

PLEXTONE *is scrubbable* — Thousands of scrubbings with soap and water or detergents will not harm it.

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COUPON

Gentlemen: I want to make the "3-way" test on PLEXTONE. Please rush *FREE* color chips, PLEXTONE sample and application data.

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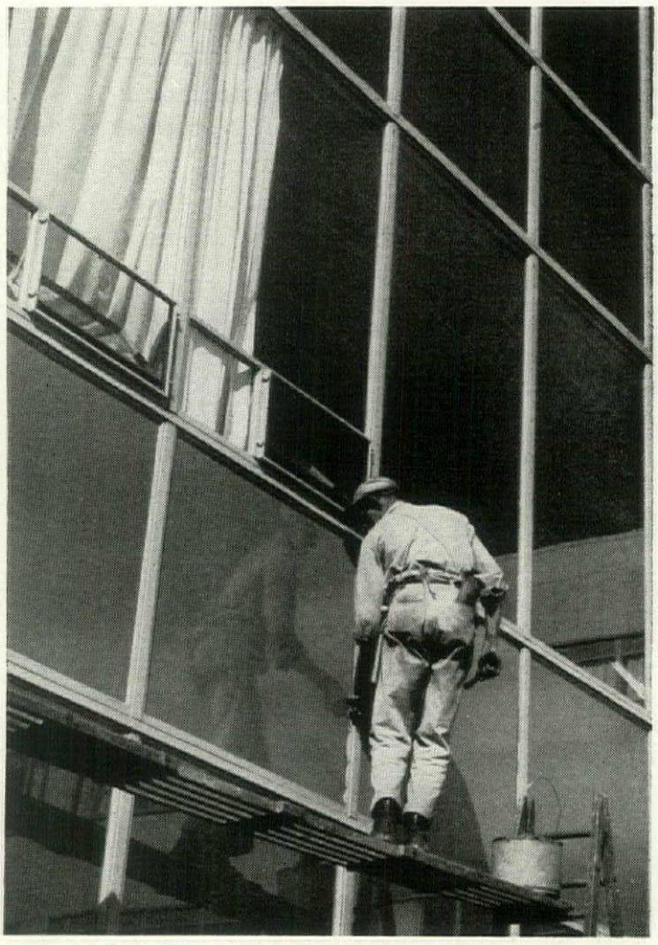
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COMPANY_____

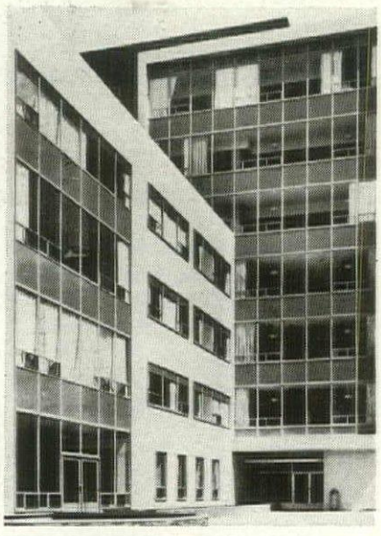
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flat-as-glass **Seaporclad** does the job ...right!



Here's a porcelain face in full gloss blue, with aluminum honeycomb core and Paint-Lok backs, insuring permanence and lasting beauty to this striking building.



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Architect: Young & Richardson, Carleton & Detlie, Seattle.
Contractor: Howard S. Wright, Seattle.

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What's more, SEAPORCLAD is available in the widest range of textures and colors to harmonize with practically every type of structural material and architectural mood.

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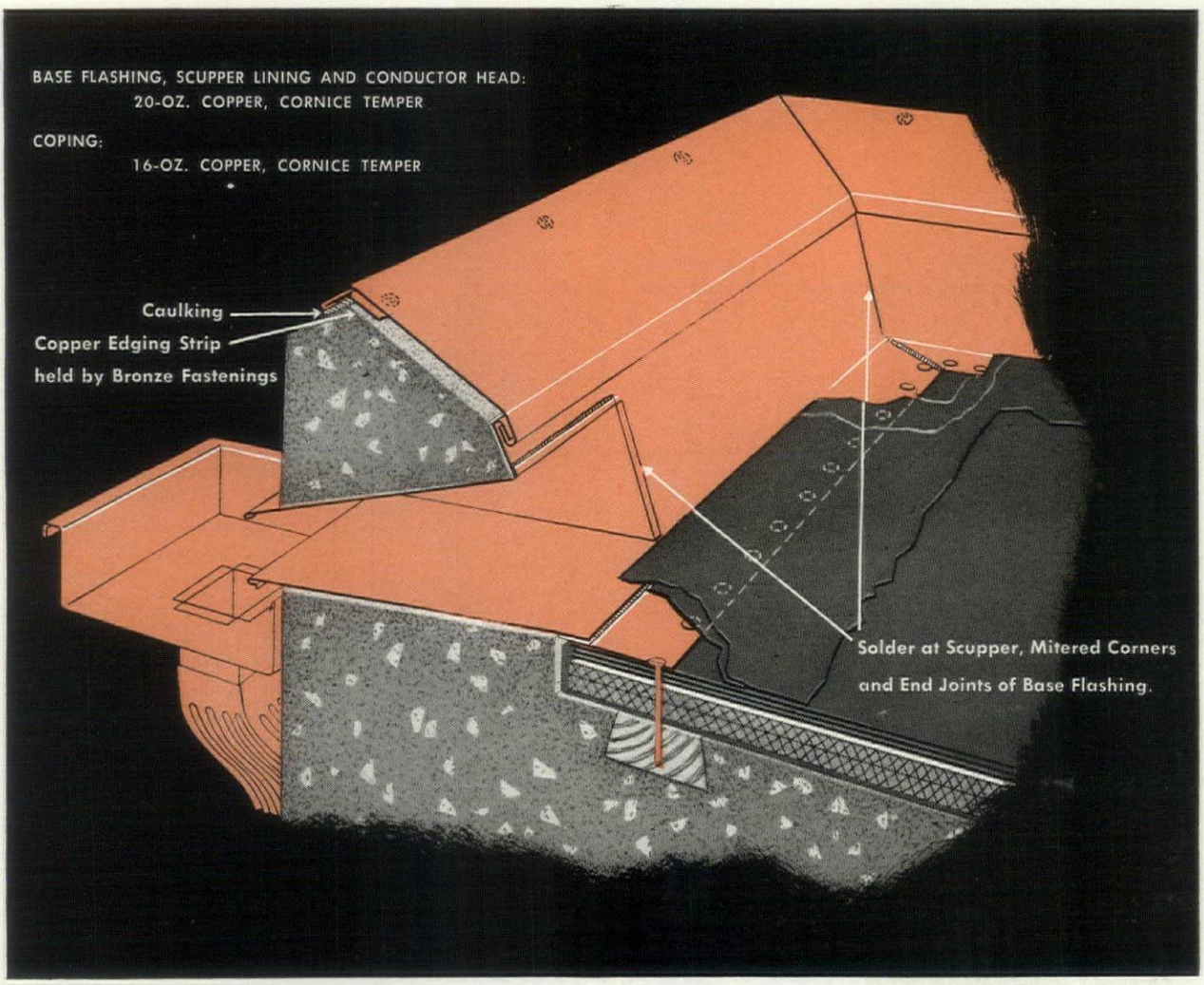
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Flashing design for parapet with roof scupper

On buildings where the parapet is designed as little more than a curb and in climates where snowfall is not severe, scuppers leading to outside downspouts offer an economical method of providing for roof drainage.

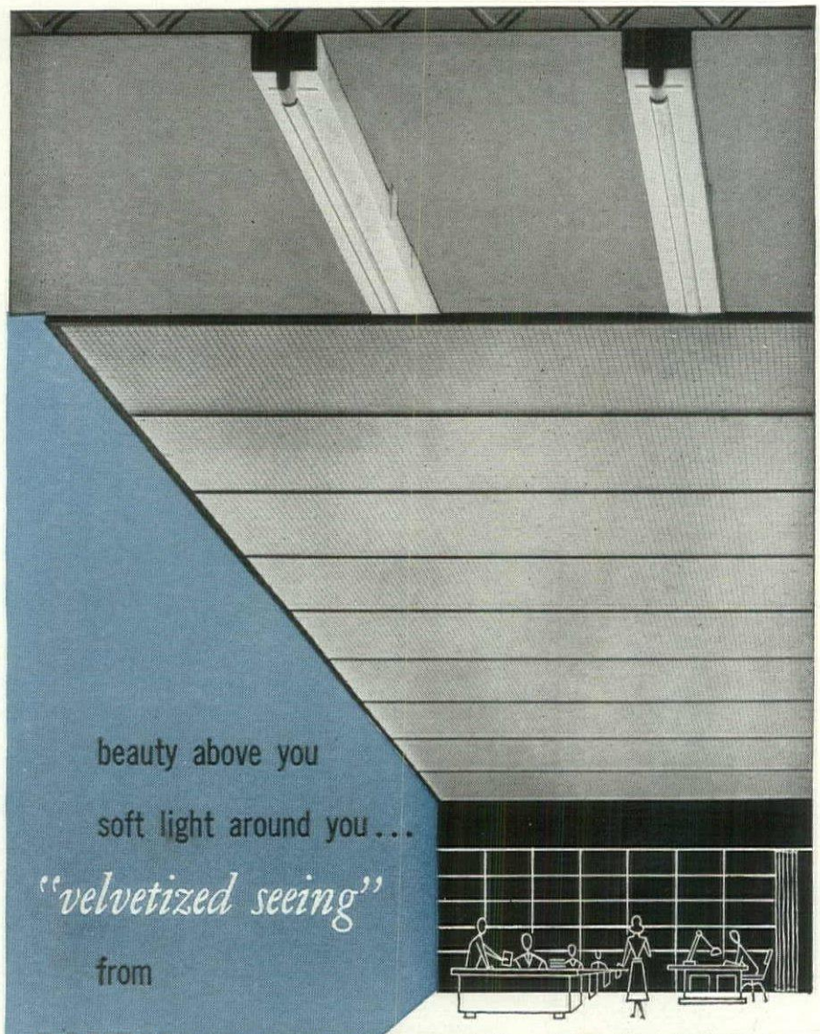
This drawing shows the details of a base flashing and scupper lining secured to the roof deck. A 16-oz. copper coping, joined to the 20-oz. base flashing with a loose clinch lock, protects the vertical mortar joints of the masonry. Free-sliding, weathertight expansion joints should be installed on the copper coping at 24-ft. intervals and wherever expansion is provided for in the structure. 5346



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LETTERS

CURRENTS OF MODERN ARCHITECTURE

Sirs:

Great Day in the Morning! The FORUM prints two clearly thought-out pieces by two live men, and both in the same issue (AF, July '53). Congratulations!

Churchill's talk is a breath of fresh air and Saarinen's article a pleasure altogether. Sensible discussion of design theory is too rare entirely, and Saarinen's formulation sets it up nicely—wrong in several particulars, I believe, but so right in its main argument. How stimulating this is after the windy discourses of Mumford (see his talk to the AA students, reported in *The Journal of the AIA* for July 9).

Does this signal a change in editorial policy? Is the FORUM to become that near-contradiction in terms, architecturally literate? I hope so.

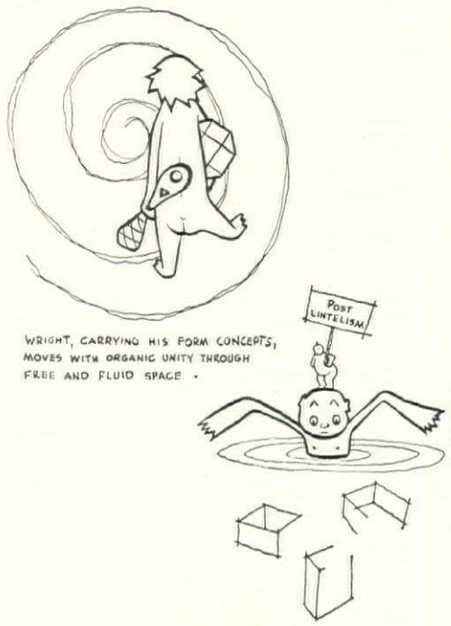
JOHN RANNELLS, *architect*
New York

Sirs:

Mr. Eero Saarinen's good article on "currents of modern architecture" in July FORUM, with its optimism for the future of creativity, is a source of great comfort to one as new to the business as am I. But please, Mr. Saarinen, such language! Plucking (unfairly and out of context to be sure) a phrase or a word here and there, I have sketched out the impression such language might make on the uninitiate layman concerning the peers of today's architecture.

JOHN MACFADYEN
American Academy, Rome

• Three of Reader MacFadyen's sketches appear below and on p. 68.—Ed.



continued on p. 68

air conditioning

attracts a community's funds —and its fun

A social room in a *bank?* Yes—it's one example of how banks are becoming more and more a part of the communities they serve. This combination branch office and civic center—complete with parking facilities and air conditioning—is located five minutes from the heart of Syracuse, N. Y. It's the new Community Branch of the Onondaga County Savings Bank. ▪ The 30′ x 90′ main floor is designed for banking and business. The fully furnished basement room, with its own parking lot entrance, adjoining kitchen and dressing rooms, is dedicated to the activities of local church, club and civic groups. A Carrier Weathermaker* Air Conditioning System helps keep both upstairs and downstairs busy and inviting. The Carrier Weathermaker provides year-round comfort. Its heating coils use



steam supplied by a gas-fired boiler. ▪ The new branch enjoys the best community relations in the bank's history and officials credit this to the community center—parking lot—air conditioning combination. ▪ Whether you are designing a bank, a suburban store, a restaurant or a controlled-climate home, you will find in the full line of Carrier Weathermakers one that fits the bill exactly. Carrier people founded the air conditioning industry more than 50 years ago. All this experience is yours to command. Look for Carrier in the Classified Telephone Directory. Or write Carrier Corporation, Syracuse, New York.

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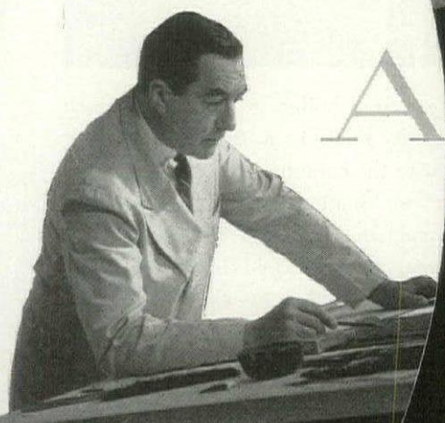
air conditioning
refrigeration
industrial heating

Architects: Merton E. Granger, Helen C. Gillespie
Mechanical Engineers: St. John & Platt
Mechanical Contractor: Edward Joy Company
Air Conditioning Contractor: Cooney Company

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another architect-designed pattern in

Acoustone

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Here is an acoustical tile that appears to merge into a single, unbroken surface—a textured surface of singular beauty! It's TEXTURA—another new design in MOTIF'D* ACOUSTONE, America's most distinguished acoustical tile . . . achieved through a patented process exclusive with U.S.G., originators of fissured acoustical tile. Of course, it's incombustible, has high sound absorption and light reflection.

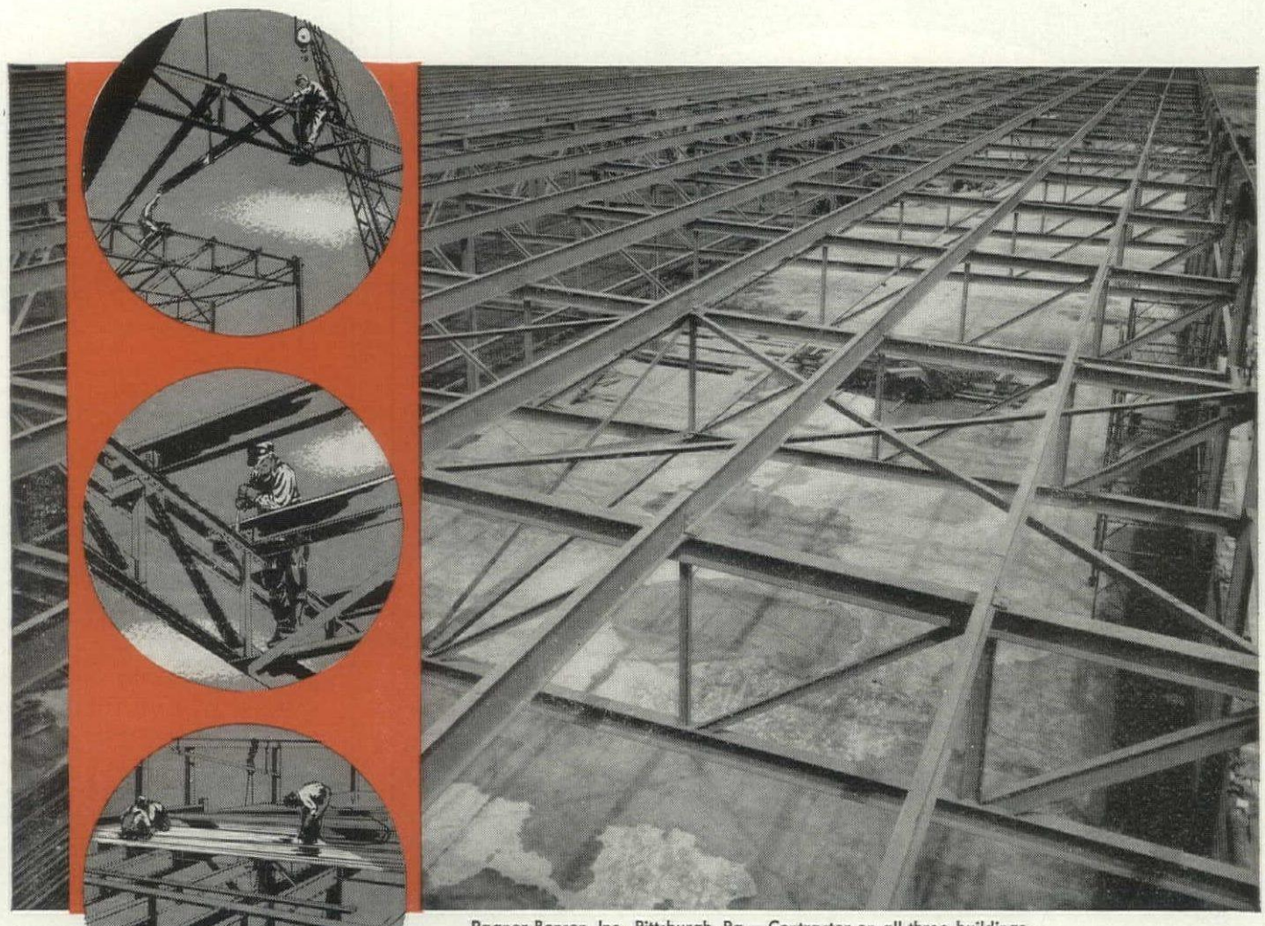
Sound control is a job for experts. For complete drafting room details or assistance in sound control planning, contact your nearby ACOUSTONE contractor, or write United States Gypsum, Dept. 136, Chicago 6.

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Cut cost, save time—and eliminate one sub-contract by using FIAT PreCast Receptors. When you plan showers with plastic or metal tile walls you save labor—speed completion—by specifying a *plumber-installed* FIAT receptor. You will get a better shower floor . . . attractive . . . one-piece . . . permanently leakproof. There's no lead pan, no multi-layer construction—nothing that can be affected by building settlement. It's the modern, money-saving way to better shower construction.

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LETTERS *continued*



WURSTER AND BELLUSCHI, LACKING ESTHETIC AND STRUCTURAL DISCIPLINES, PLY THEIR HANDICRAFT WITH UNCHECKED EMOTIONALISM.

Sirs:

Coming from a noble soul and conscience of our time, these words of Romain Rolland in his *Essays on Music* might like Isaiah reach the remnant few:

"A narrow and self-regarding sense of nationalism has never brought an art to supremacy. Quite the contrary, it would very soon result in its dying of consumption. If an art is to be strong and vital it must not . . . seek shelter in a hothouse, like those wretched trees which are grown in tubs; it must grow in a free soil and extend its roots unhindered wherever they can drink in life. The soul must absorb all the substance of the world. It will nevertheless retain its racial characteristics; but its race will not waste away and become exhausted as it would if it fed only on itself; a new life is transfused into it, and by the addition of the alien elements which it has assimilated it will give this new life a power of universal irradiation. Urbis, orbis. The other races recognize themselves in it, and not only do they bow to its victory, they love it and enter into fellowship with it. This victory becomes the greatest victory to which an art or a nation can lay claim; a victory of humanity.

"Of such victories, which are always rare, one of the noblest examples is, in music, the classic German art of the close of the Eighteenth Century. This art has become the property, the food of all . . . . The reason Gluck and Mozart are so dear to us is that they belong to us, to all of us. Germany, France and Italy have all contributed to create their spirit and their race."

A. S. T.
Chicago

Sirs:

Congratulations on your institution of discussions from "the broader view," ably begun by Eero Saarinen. The American architectural press has too long lacked what we have enjoyed in European publications—dispassionate criticism of the thinking behind the architecture of today.

ALEXANDER S. COCHRAN, *architect*
Baltimore, Md.

continued on p. 74

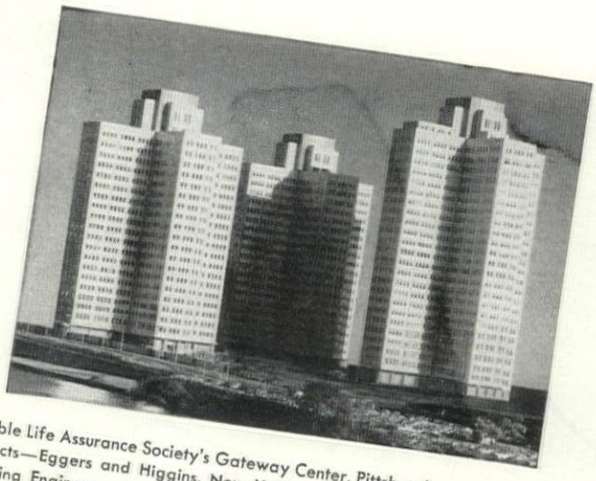
64,000 HOURS A DAY
of All-Weather Comfort
with JOHNSON
Automatic
CONTROL

Gateway Center, crown jewel of Pittsburgh's fabulous Golden Triangle, is acclaimed everywhere as a triumph of advanced design, engineering skill and farsighted enterprise. In its creation, perfection was the only standard.

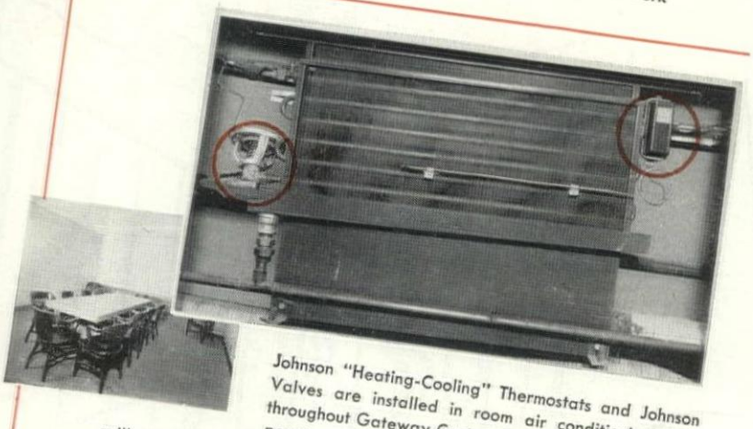
For example, with Johnson Control in command of the air conditioning system, there is automatic comfort control every minute of the day for the 8,000 people who will occupy these modern buildings. In each bay or private office on the periphery, a Johnson "Heating-Cooling" Thermostat permits individual weather selection by the occupants. Nearly 2,000 Thermostats and more than 5,900 Johnson Valves, regulating the supply of hot and cold water in modern Carrier Weathermaster room air conditioning units, assure complete year 'round personal comfort for each occupant.

In addition to *individual room temperature control*, behind the scenes there is Johnson Master-Submaster Control to operate valves and dampers to regulate temperatures and humidities of the air supplied by the primary and central air conditioning systems serving the individual room units and the interior zones of the buildings. In the basement areas, other Johnson instruments operate valves and dampers on unit ventilators and exhaust fans.

Gateway Center, involving one of the world's largest automatic air conditioning control systems, is another convincing demonstration that *any* control problem is best solved by Johnson . . . the only nationwide organization devoted exclusively to planning, manufacturing and installing automatic temperature and air conditioning control systems. Ask a Johnson engineer from a nearby branch office for recommendations on any control problem—large or small, in both new and existing buildings. There is no obligation. JOHNSON SERVICE COMPANY, Milwaukee 2, Wisconsin. Direct Branch Offices in Principal Cities.



Equitable Life Assurance Society's Gateway Center, Pittsburgh
Architects—Eggers and Higgins, New York, and Irwin Clavan, New York
Consulting Engineers—Meyer, Strong and Jones, New York
Builder—Starrett Bros. and Eken, New York
Air Conditioning Contractors—Kerby Saunders, Inc., New York



Johnson "Heating-Cooling" Thermostats and Johnson Valves are installed in room air conditioning units throughout Gateway Center. The thermostat, with temperature bulb mounted close behind the recirculating grille, responds quickly to average room temperature. In turn, the Johnson valve regulates the hot and cold water supply to the coil of the unit and automatically applies exactly the right heating or cooling effect.



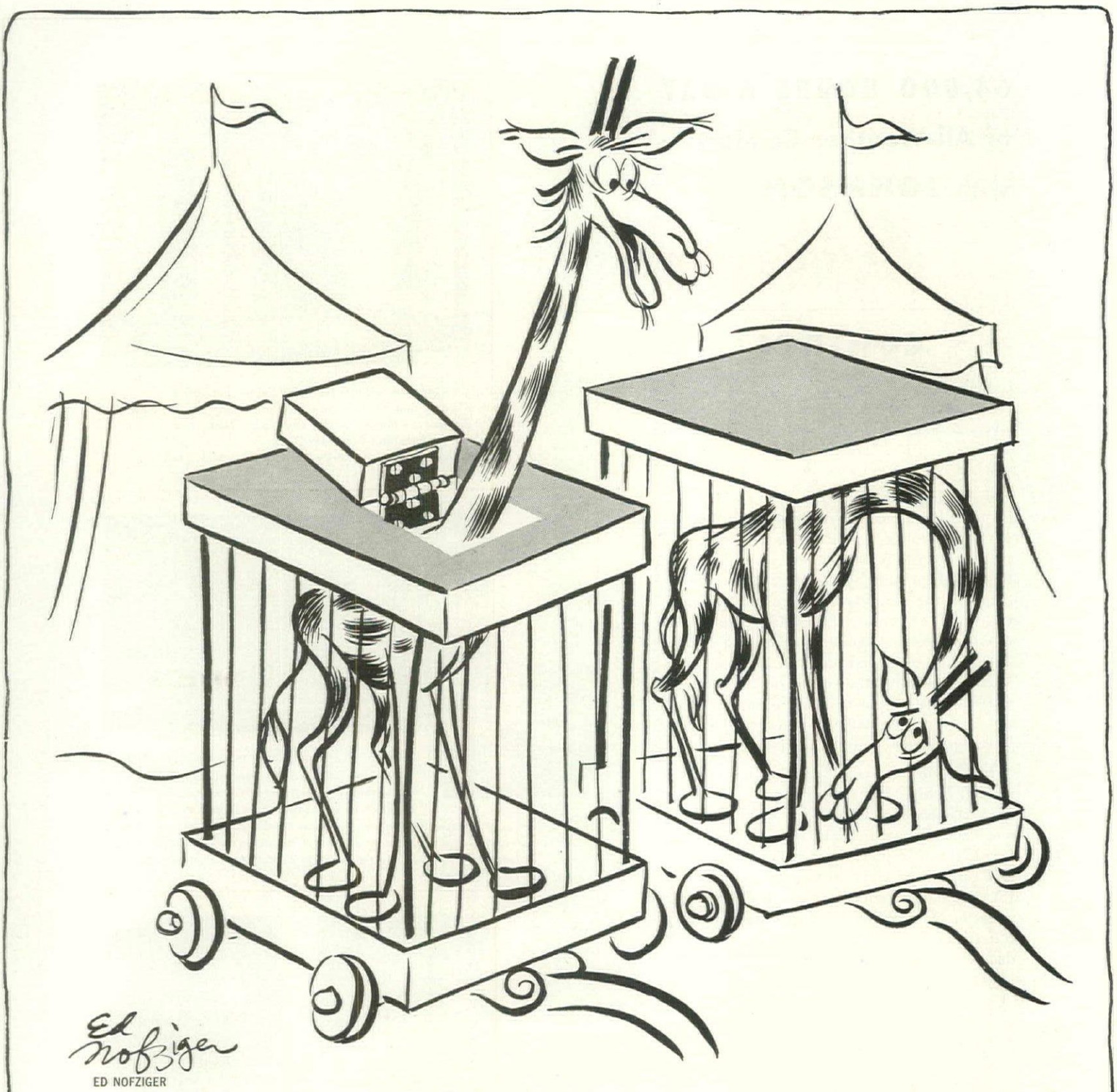


At left above, J. S. McCorkle, chief engineer of Gateway Center, points to Johnson Humidostat and Johnson Piston Damper Operators on this typical fan installation serving an interior zone of one building. A Johnson Humidostat measures and automatically controls the humidity of the spaces.

At right above is one of three 1500 ton Carrier centrifugal refrigerating machines that furnish chilled water for air conditioning. A Johnson Record-O-Stat (2-pen type) measures and records temperatures of both inlet water and water leaving the chiller. The temperature of the water leaving the chiller is automatically controlled by the Record-O-Stat, which operates the suction dampers of the huge machine.

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JOHNSON *Automatic Temperature and Air Conditioning* **CONTROL**



ED NOFZIGER

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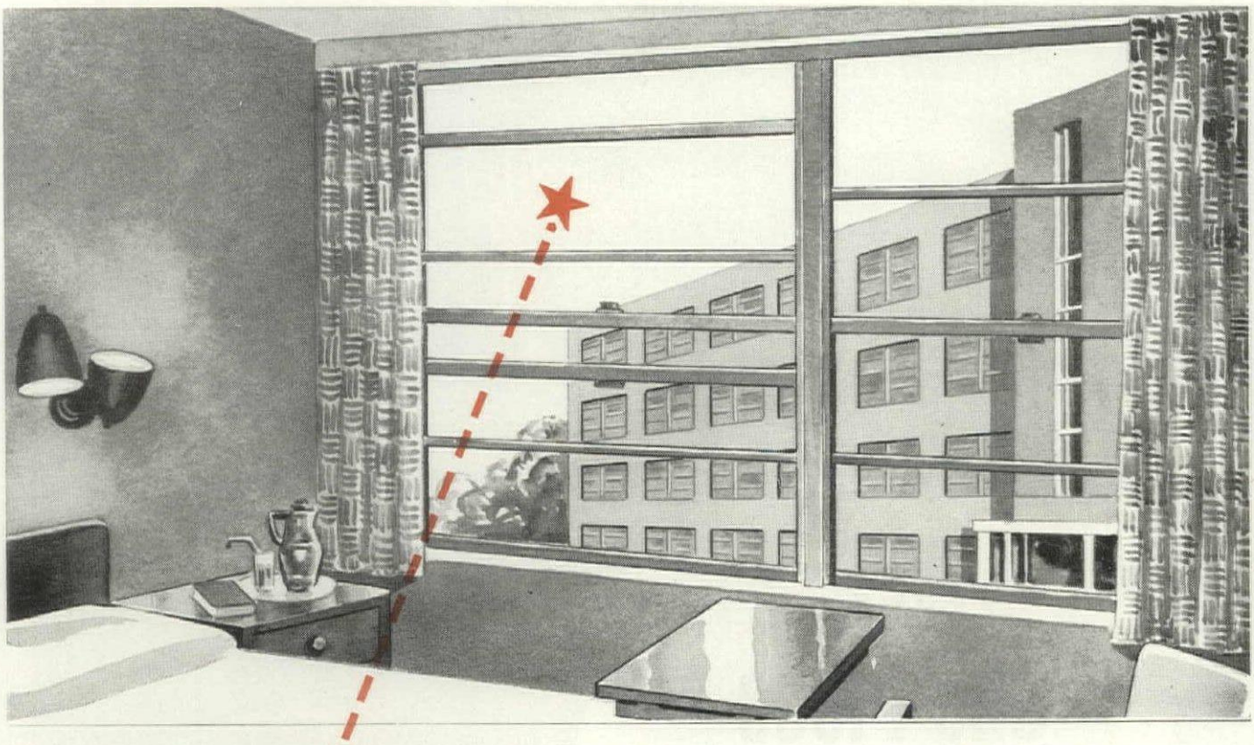
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Double Hung
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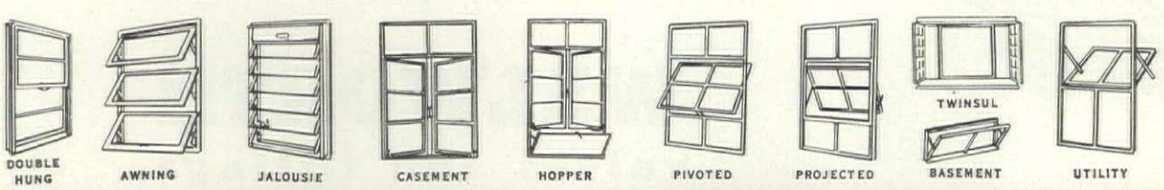
It is structurally perfect. Multi-styled to fulfill the needs of any type of construction. . . institutional, commercial, residential. Engineered to be maintenance-free for the life of the structure.

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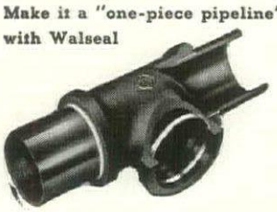
. . . and you can *see* that it's made right. When you make a WALSEAL joint the fillet of silver brazing alloy that appears at the face of the fitting is your assurance of full penetration and a permanently leak-proof joint that's vibration proof and corrosion-resistant . . . won't creep or pull apart under any conditions that the pipe itself can withstand.

Walseal is a registered trade-mark which identifies valves, flanges and fittings manufactured by the Walworth Company. Walseal products have *factory-inserted* rings of silver brazing alloy in threadless ports. Joints made with Walseal products are silver brazed and actually make the system a "one-piece pipeline."

Your copy of Circular 115 giving details on Walseal valves and fittings will be sent on request . . . send for it or see your nearby Walworth distributor.

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valves and fittings

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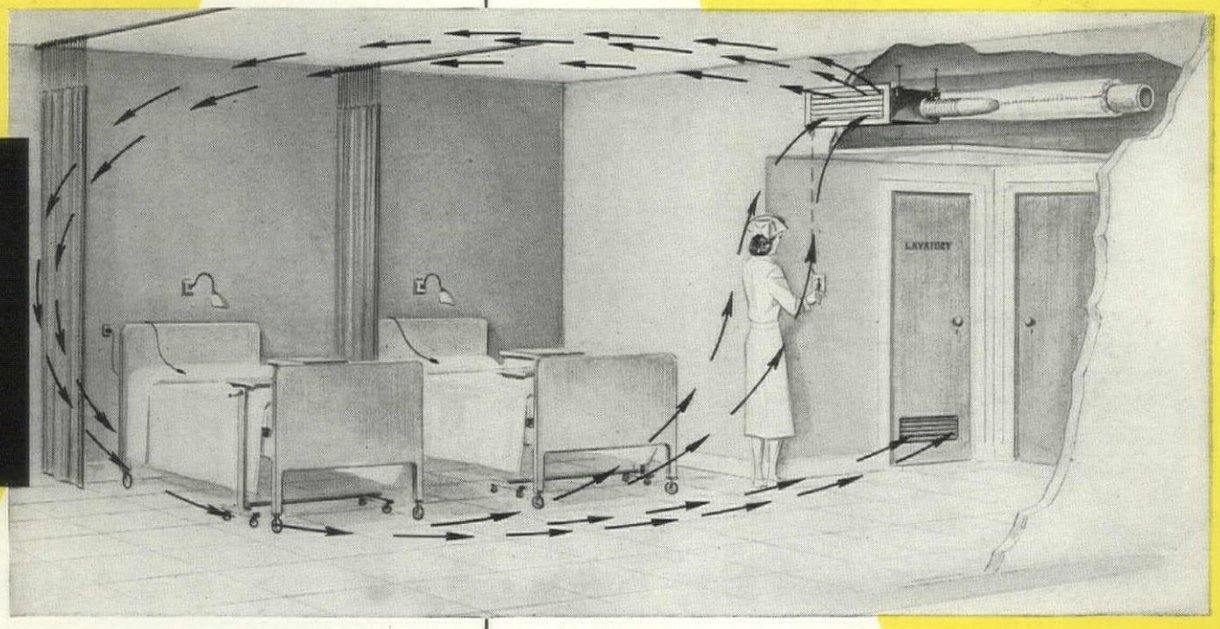
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The illustration shows a typical **hospital** room installation of an Anemostat high velocity unit in the HPSL-100 series. These induction-type units induce into the device a volume of room air up to 100% of the primary air supply according to requirements. They are made for single or dual duct systems, have manual or automatic controls, and may be installed in walls or ceilings.

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Byers Wrought Iron provides the long carry that by-passes the hazards of high maintenance costs and keeps you on the profit fairway. So don't fall a victim to periodic repair and replacements by using low-first-cost materials . . . insist on Byers Wrought Iron. Remember, the pipe that lasts the *longest* costs the *least.*



For some helpful tips on some of the many services where Corrosion costs you More than Genuine Wrought Iron, and the reason behind the material's longer life, ask for THE ABC'S OF WROUGHT IRON. Write A. M. Byers Company, Clark Building, Pittsburgh, Pa.



BYERS
WROUGHT IRON

LETTERS *continued*

CRITICISM VS. STATESMANSHIP

Sirs:

FORUM's May editorial on this subject seemed admirable in tone and temper and philosophy, and I congratulate you on it.

LEWIS MUMFORD
Paris, France

• This is the last letter FORUM will print on the subject of its May editorial.—Ed.

ARCHITECT CLIENT FORUM

Sirs:

We congratulate you on your Architect-Client FORUM and your article "The Need for Better Planning and How to Get It" (AF, June '53).

This forum is a definite step in the right direction. I only hope that the story will be seriously studied by architects and building owners alike.

We consulting engineers are constantly confronted with the lack of proper planning and often with the fact that architectural plans have been developed to a stage where the mechanical and electrical installations must become a compromise rather than a part of a well-integrated program.

The greatest interests of the owner are served when more thorough advance planning can be done. We agree that both the time and money spent for this will materially accrue to the owner's benefit.

CARY B. GAMBLE, *consulting engineer*
New Orleans

Sirs:

The best symposium I have ever read and the most useful in knowledge. Every person who is going to build any reasonable-sized building should read it before he does anything else. I am going to make a copy of this and keep it to show all my future clients, for the copy I have now will soon wear out with rereading.

RONALD ELLIS
Toronto, Ontario

Sirs:

Congratulations on the excellent "Architect-Client Forum" you sponsored in collaboration with the AIA Public Relations Committee (AF, June '53). This was truly a most representative group both from the architectural profession and the clients.

Although the discussion was reported in a most clear, concise and effective manner, no proper remedy was prescribed for the same old ailment: that the architect is to blame for faulty estimates. Instead of the architect being overoptimistic, he merely passes on to his client the overoptimism of the contractors and material dealers. In preparing an estimate the architect may price lumber from the mill man, carpentry labor from the

continued on p. 80

T-CHORD LONGSPAN JOISTS

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put sidewalls of Careystone on their new TV-radio factory!

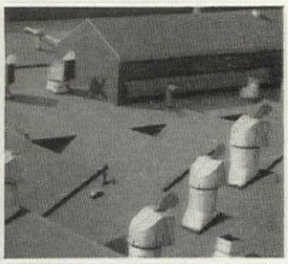
By choosing Careystone Corrugated, Westinghouse made sure of low maintenance costs and absolute fire safety for the lifetime of their new TV-radio plant at Metuchen, N. J. For Careystone never needs preservative treatment, will not rot, rust, corrode or burn . . . actually *gains* in strength with exposure to weather. Careystone resists termites and rodents, too. And its attractive, natural gray color saves painting expense.

Careystone is made of virtually indestructible asbestos and Portland cement, corrugated for great structural strength. It is quick, inexpensive and easy to erect. Comes in big 42" x 8' sheets that cover fast. Can be applied over steel or wood framing; sawed to fit irregular areas.

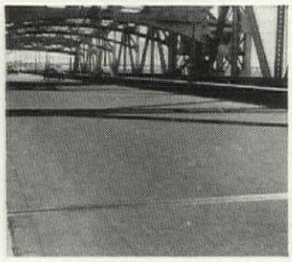
Careystone is suitable for exterior or interior walls, partitions, storage buildings, to highlight a few uses. If you plan a new plant, or addition, give serious thought to the advantages only Careystone can deliver. Ask your Carey Industrial Sales Engineer for the latest Careystone Corrugated Manual No. 52–84 fact-filled, money saving pages. Or, write on your letterhead for a copy today. Write Dept. AF-9.



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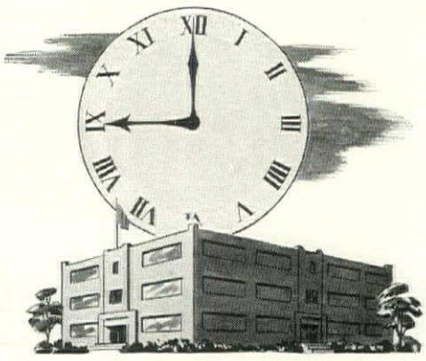
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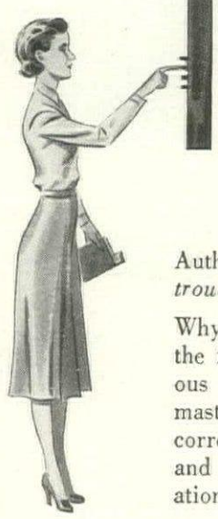
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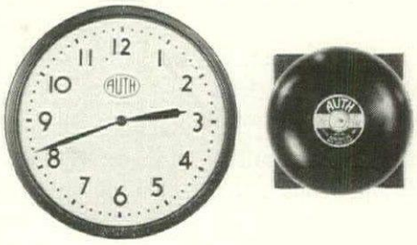
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Why? Because Auth Clock Systems, featuring the famous Telechron self-starting synchronous movements, do not require complicated master clocks, relays, rectifiers, etc., to assure correct time. Contactless type program bells and buzzers assure long life and smooth operation.

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Auth Interior Telephone Systems provide the same kind of quick and reliable communication as the public telephone system.

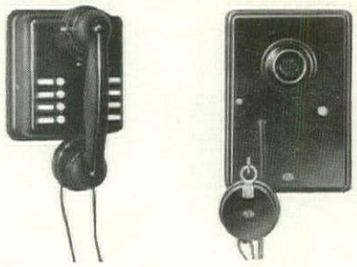
For many years the Boards of Education of the City of New York and numerous other municipalities have installed Auth systems. *Dependability is the reason.*



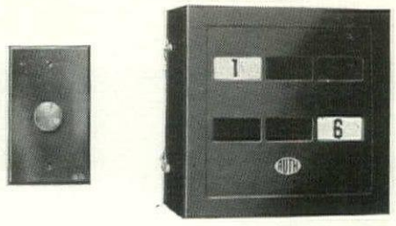
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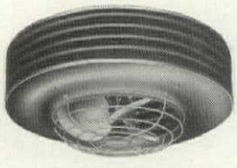


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Mark Minnesota!
Glorious land of 10,000 sparkling lakes!
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This McQuay "vertical" unit heater, suspended near the ceiling, utilizes the warm air in that area and distributes it down to the floor level. No wasted heat, no cold spots. Four types of draftless diffusers available. Capacities from 25,400 to 500,000 Btu per hour.

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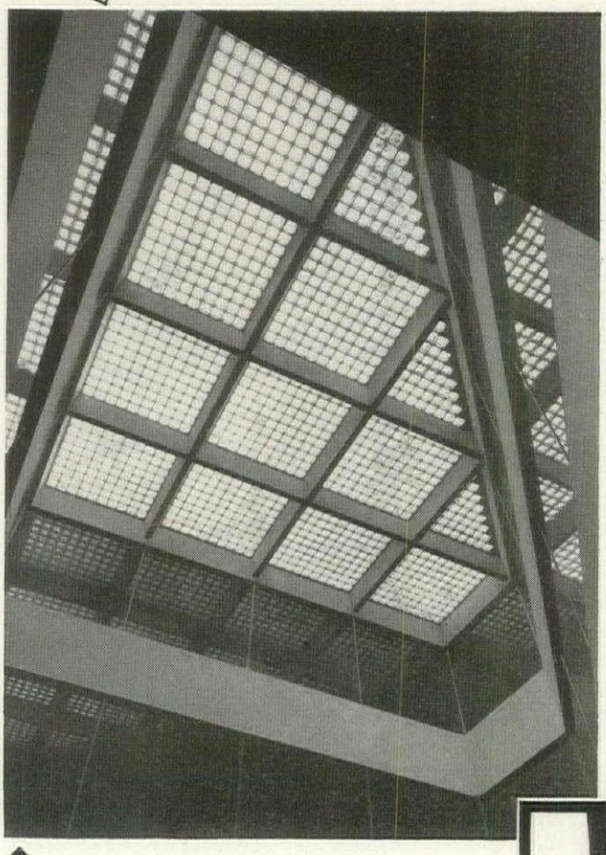
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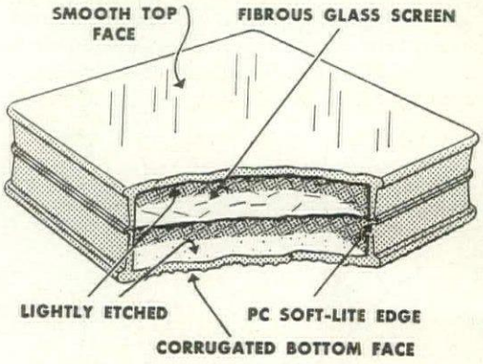
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SKYTROL Glass Block panels bring light in the *natural* way—from the ceiling. They brighten the farthest reaches of the room.

SKYTROL blocks are flexible. They can be laid right on the job and require no special orientation. The architect is free to create practical toplighting panels of virtually any size.



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● Today's trend is toward one-story buildings. As building design tends to "flatten-out," daylighting becomes a problem in the interior rooms.

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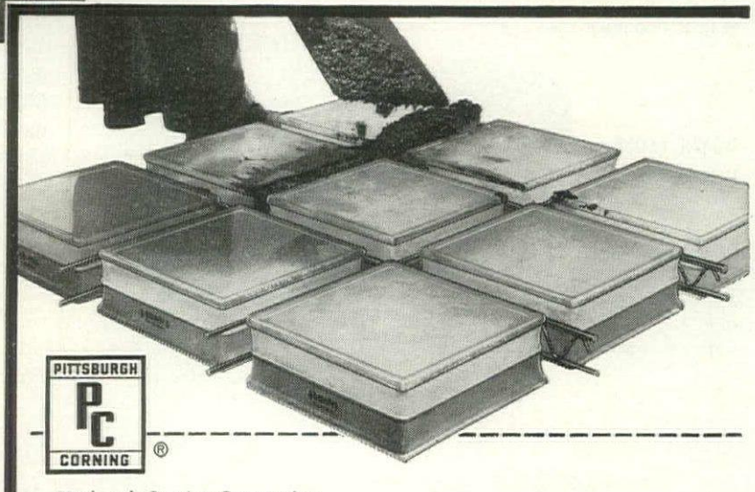
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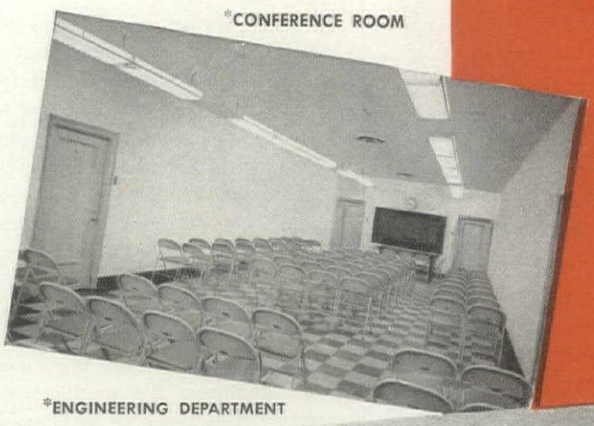
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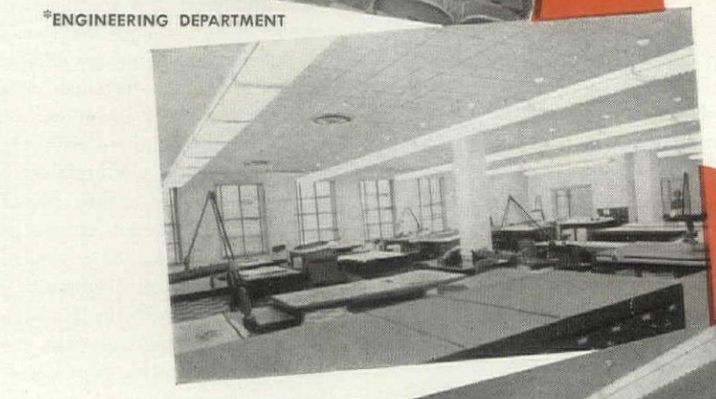
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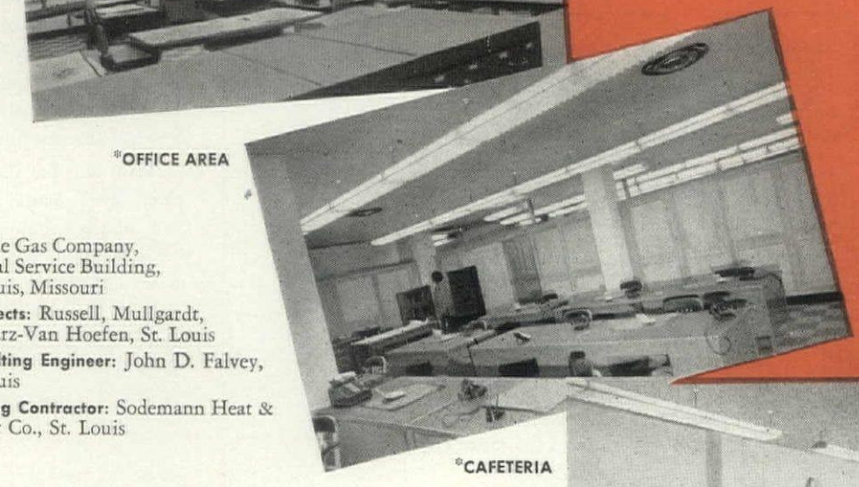
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*ENGINEERING DEPARTMENT



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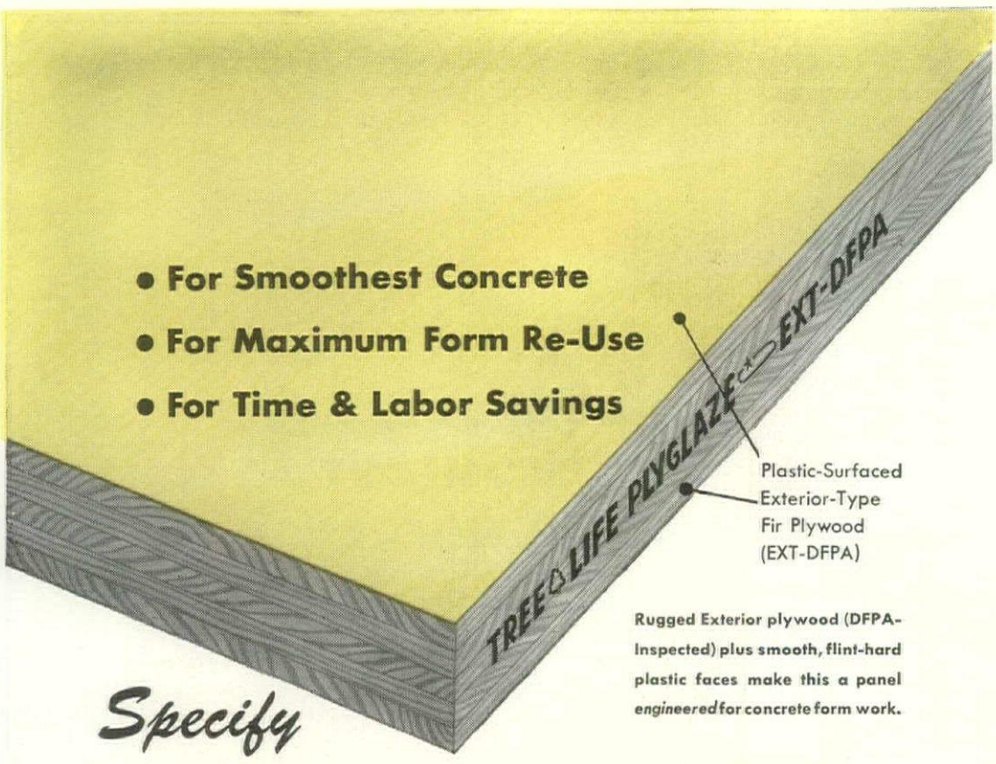
Name.....

Position.....

Company.....

Street.....

City..... **Zone**..... **State**.....

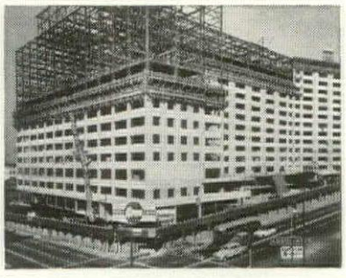


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LETTERS *continued*

general contractor, and prices for the various trades from the subcontractors. After a certain amount has been added for profit and overhead, there is nothing else for the architect to do except to gaze into the crystal ball and pick out a factor of safety which will provide for the undue optimism of those from whom he must seek information. This very necessary phase of estimating could hardly be considered scientific.

When salesmen stress the economy of using a certain material or a certain construction method, we must allow for this as a contractor's option in the specifications. In many cases the bidder does not consider this item of sufficient economy for him to accept the option. In other instances when it is not feasible to provide an option, if the economy which should be there isn't realized in the bidder's proposal, the architect probably will be accused of misleading his client.

Since the architect is not going to construct the building, he is dependent entirely on the accuracy of information given him by those who will perform this work if awarded the contract. Consequently, there may be some merit in asking a prospective bidder to furnish the preliminary estimate.

Naturally he should be paid for this service. This leads us to the most confusing part of the whole situation: how can owners be induced to pay for this estimate when in many cases they do not wish to pay for additional engineering service and can't understand why architects charge 6% in the first place?

JOSEPH WILLARD WELLS, *architect*
Norfolk, Va.

Sirs:

I have found a particularly favorable reception from businessmen after they have found out that an architect is willing and able to give them unprejudiced advice and inexpensive cooperation in structural matters. We have about a dozen local concerns by whom we are retained. They call upon us for all sorts of matters and are billed on the basis of cost times two, which so far seems to work out satisfactorily to both parties. The other day a lithographing company bought a new press and asked us to investigate the location where it was to be placed to see if the additional load was within the capacity of the structure. We are also called in in matters such as roof leaks, changing over to a public utility steam supply, and countless other miscellaneous problems. These are people for whom we have not built; naturally the people for whom we have built new structures call on us for similar advice.

Following are two paragraphs from a letter which brought about this cooperation:

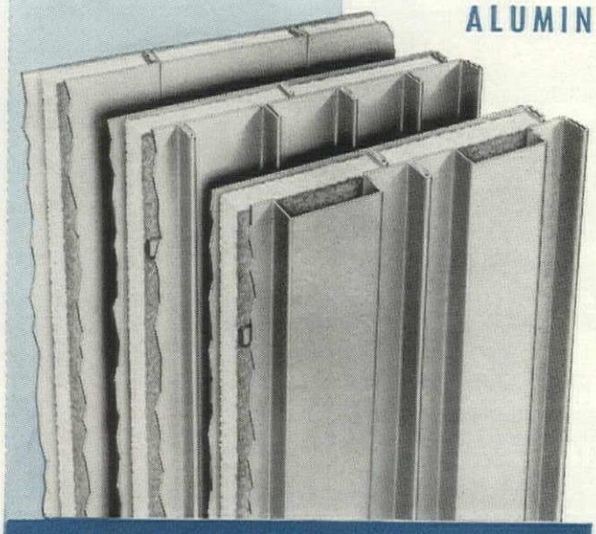
"Most businesses have an attorney to whom they turn over all of their legal problems,

continued on p. 84

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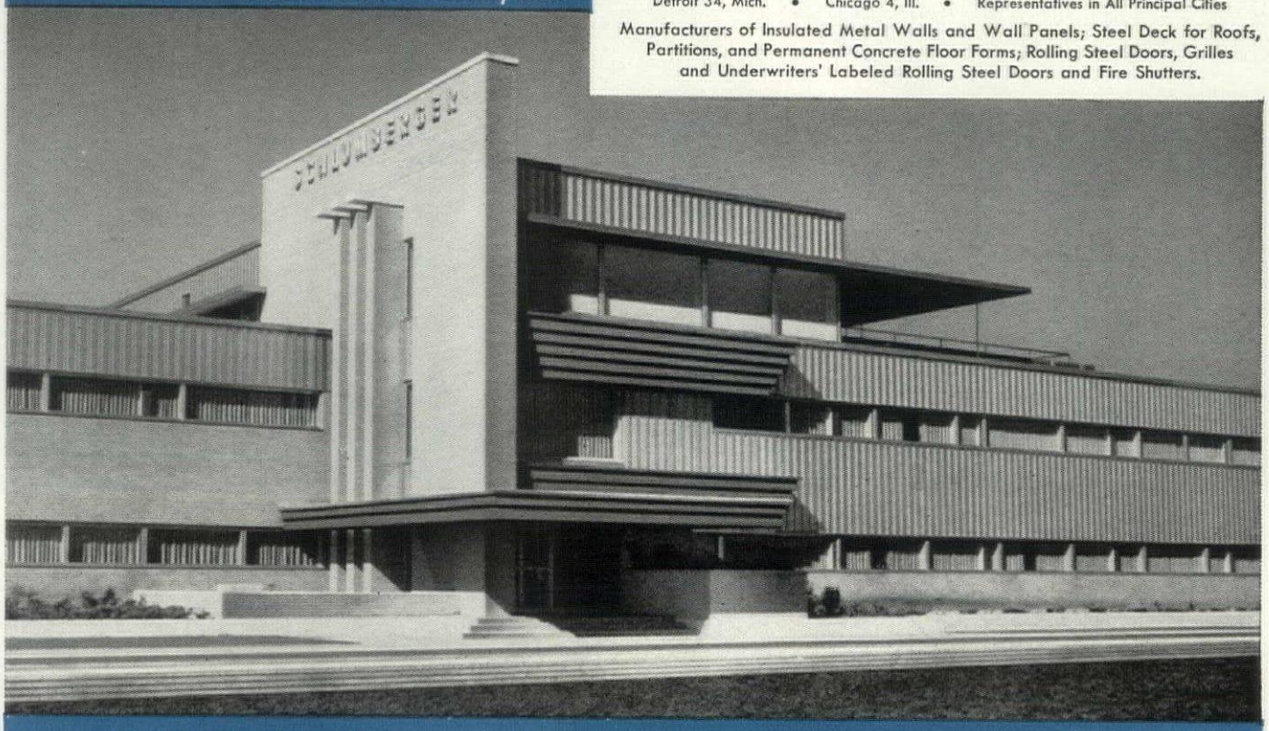
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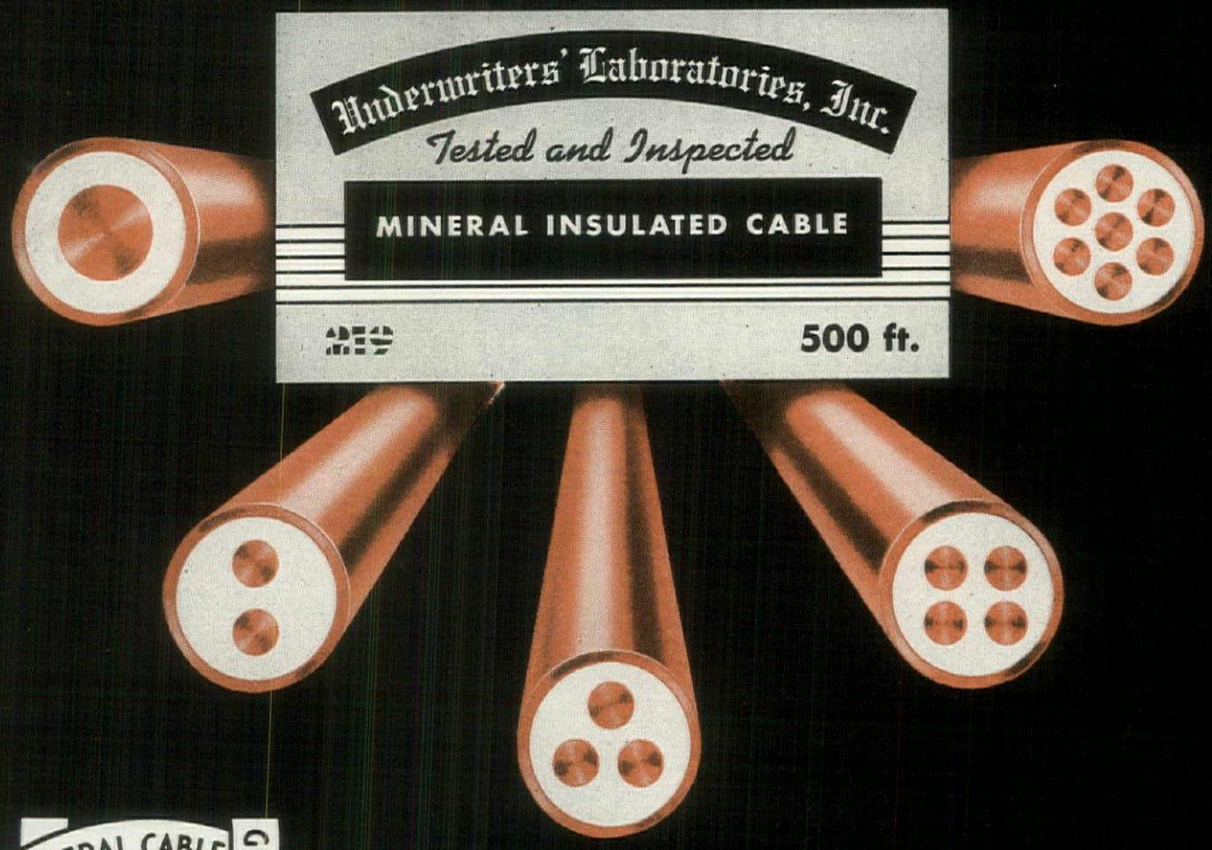
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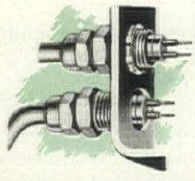
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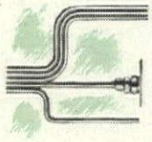
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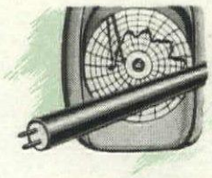
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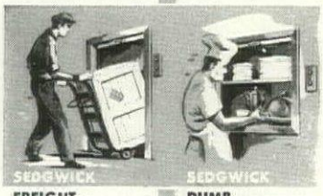
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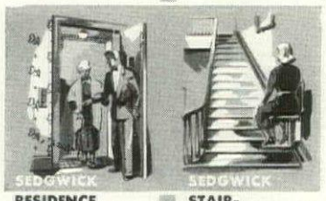
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LETTERS *continued*

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CYRIL T. TUCKER, *architect*
Rochester, N. Y.

JUNK THE NEIGHBORHOOD SCHOOL

Sirs:

"Junk the Neighborhood School" (AF, Apr. '53) is a most interesting account of a daring project which may have a far-reaching influence on school building programs in large cities throughout the US.

You and your associates merit praise for making available to your readers the story of this architectural venture of New Orleans.

I want you to know how grateful I am.

HEROLD C. HUNT
General superintendent of schools
Board of Education
Chicago, Ill.

Sirs:

. . . It is a very interesting approach to a very involved problem. There may be other situations in the US which would justify similar measures. However, the situation and the solution are not typical. . . .

RAY L. HAMON, *chief*
School housing section
Office of Education
Department of Health, Education and Welfare
Washington, D. C.

Sirs:

I was very interested in the suggestion, unique to say the least, in the article, "Junk the Neighborhood School."

It may be that the basic proposals in this article are sound and that they could be applied to the school district of New Orleans, but I doubt that they could be applied to many of our larger cities. Anyhow, the idea is worth considering, and I am grateful to FORUM for presenting the suggestion to us.

ALEXANDER J. STODDARD
Superintendent of schools
Los Angeles, Calif.

continued on p. 92

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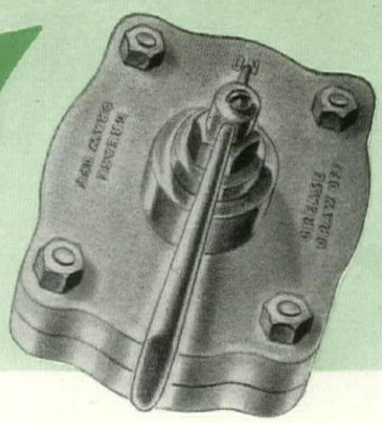
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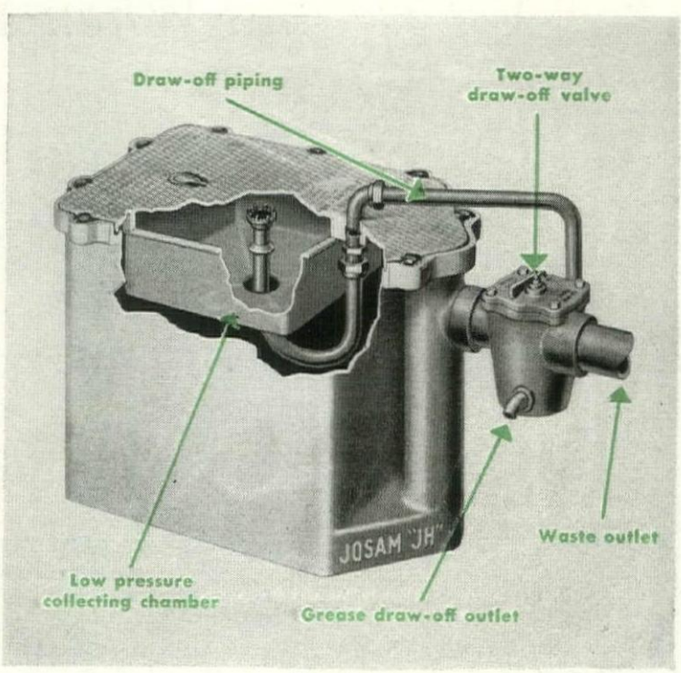
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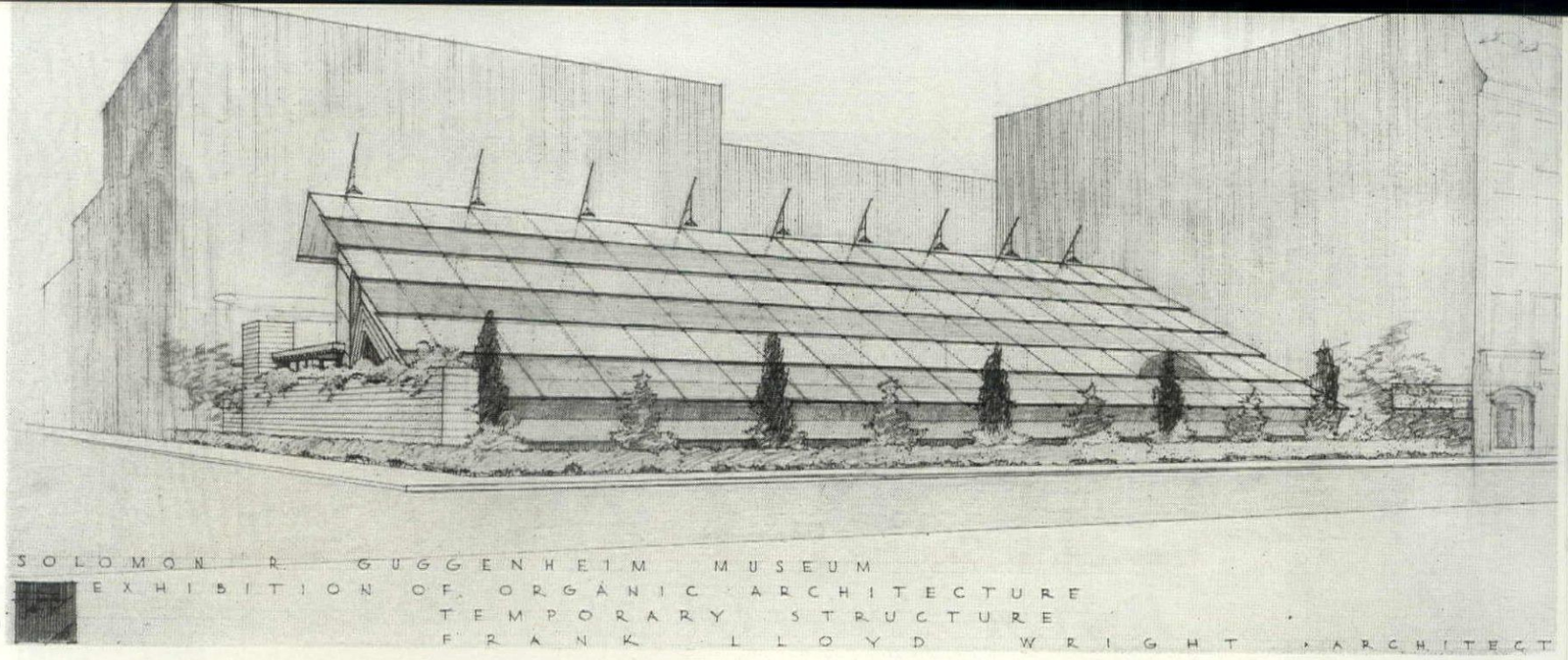
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This exhibition of native architecture was first officially requested by Italy and consequently splendidly shown at the Strozzi Palace, Florence, in June 1951. The generosity of Arthur Kaufmann enabled Oskar Stonorov to volunteer to get the material together and arrange a preview in Philadelphia in January 1951. It was there displayed much as it was later seen, as a guest at first in Italy, then Switzerland, France, Germany, Holland and Mexico—exhibitions also supervised by Oskar Stonorov. Each of the events was received in the various countries by official dignitaries and accorded high academic honors by citations and gold medals. There were illustrious celebrations, receptions, banquets-in-honor. Special numbers of five architectural magazines were published in these various nations. Wherever the exhibition went there were national sponsors, patrons and important social occasions.

But here at home the case is different. This exhibition is not a guest but is host. There have been generous offers of sponsorship, but as its own patron and sponsor this work should beckon and welcome you. Art in a Democracy ought to be its own patron; no sponsor should be necessary if our Declaration of Independence means what it says.

As the citizen rises to eminence from humble circumstances by his own merit, so the artist must arise in his own good time.

Therefore here in your own country you are to see a life's work, in its own way, for what it may be worth to you. If there are patrons they are you. If there are sponsors they are friends who have helped make this exhibition possible. If we as a free people are ever to arrive at a culture of our own, we should not get one nor try to maintain it by illustrious sponsors or powerful patrons but by friends genuinely interested in developing and preserving the innate virtues of that work.

If our form of society is true to its own nature, conscientious independence should prove a proper test of values. By that test alone should any work in the arts survive. Fine art lives and must eventually stand upon its own. The highest humility. Why not now?

So, my friends known or unknown, "Sixty Years of Living Architecture" welcomes you.

FRANK LLOYD WRIGHT

FRANK LLOYD WRIGHT

AN EXHIBITION PRESENTED BY THE SOLOMON R. GUGGENHEIM MUSEUM AT FIFTH AVE. AND 89TH STREET, NEW YORK CITY, FROM SEPTEMBER 29TH THROUGH OCTOBER, 1953

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New York-New Orleans

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MECHANICAL ENGINEERS CONSULTANTS:
Cary B. Gamble, Associates

GENERAL CONTRACTORS:
Geo. J. Glover Company, Inc.
New Orleans



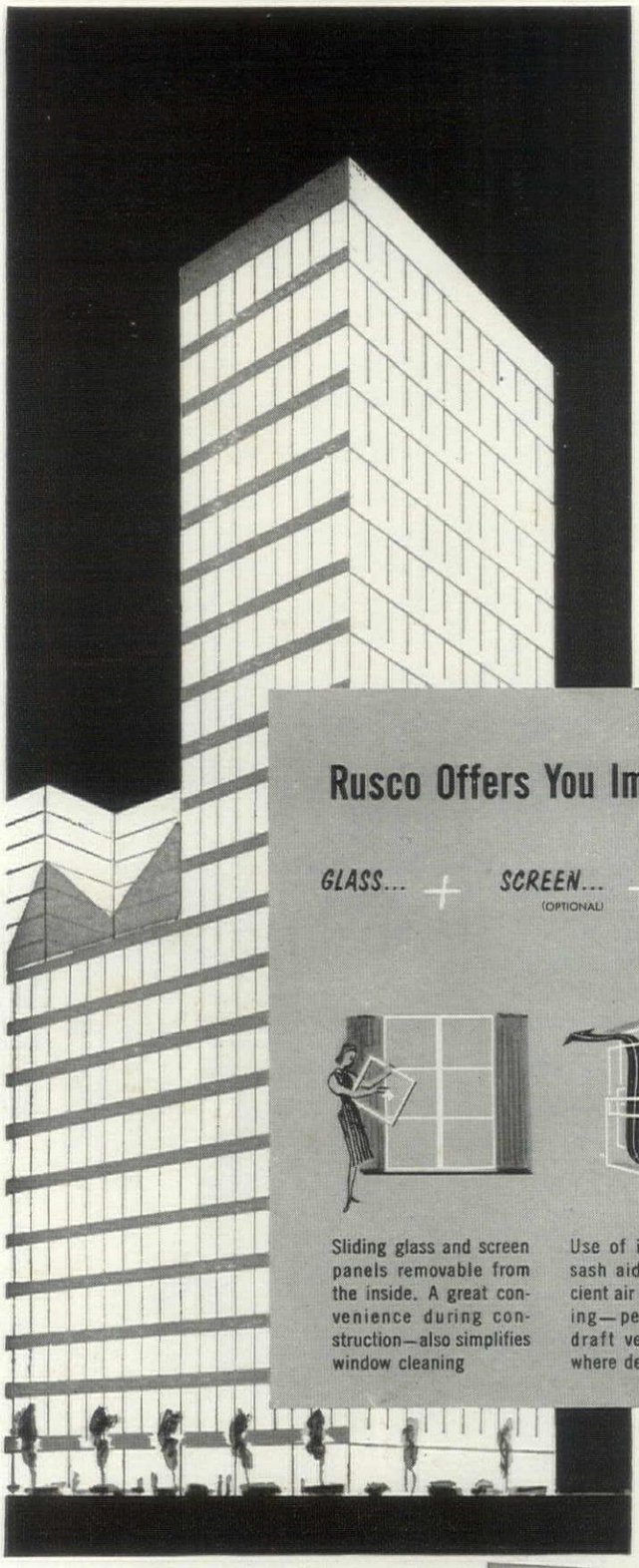
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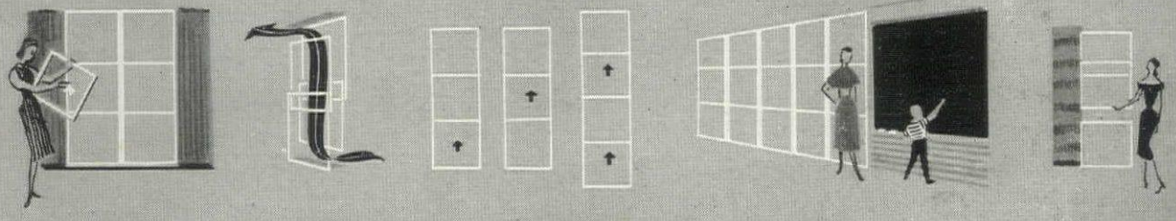
RUSCO Sets The Modern Pattern In Fenestration

Complete, Pre-Assembled Units — Fitted, Glazed and Finish-Painted — Make Big Savings in Installation Time and Cost . . .

Here is the window the whole building industry is talking about—the first truly *complete* window treatment. Proved through thousands of installations in the United States, Canada and Alaska, the Rusco Prime Window offers many unusual advantages. Made of tubular galvanized steel, bonderized and finished with baked-on outdoor enamel it is strong and rigid, yet streamlined and light in weight. Because it is fully pre-assembled, glazed and finish-painted—all ready to install in the window opening—it makes substantial savings in installation time and labor and in maintenance. Removable sash offers many conveniences and saves breakage during construction.

Rusco Offers You Important Features Not Found in Any Other Window!

GLASS... + SCREEN... (OPTIONAL) + WATERPROOFED FELT WEATHERSTRIPPING... + INSULATING SASH... (OPTIONAL) → FULLY ASSEMBLED IN METAL OR WOOD SURROUND...



Sliding glass and screen panels removable from the inside. A great convenience during construction—also simplifies window cleaning

Use of insulating sash aids in efficient air conditioning—permits no-draft ventilation where desired

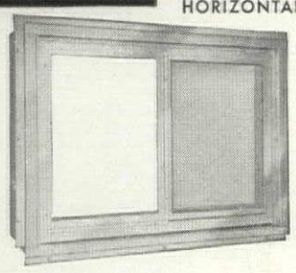
All Rusco Windows have movable panels to allow ventilation

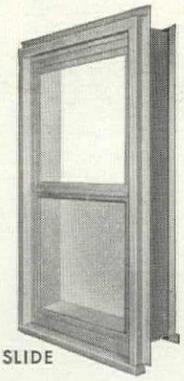
Joined in series by mullions, Rusco Prime Windows make full "glass wall" construction simple, inexpensive

Rusco Windows have no troublesome sash cords, weights or balances—raise and lower smoothly in felt-lined slides

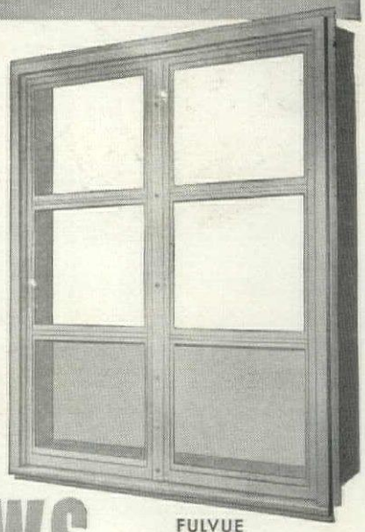
ALL COMPLETE, READY-TO-INSTALL UNITS

HORIZONTAL SLIDE





VERTICAL SLIDE



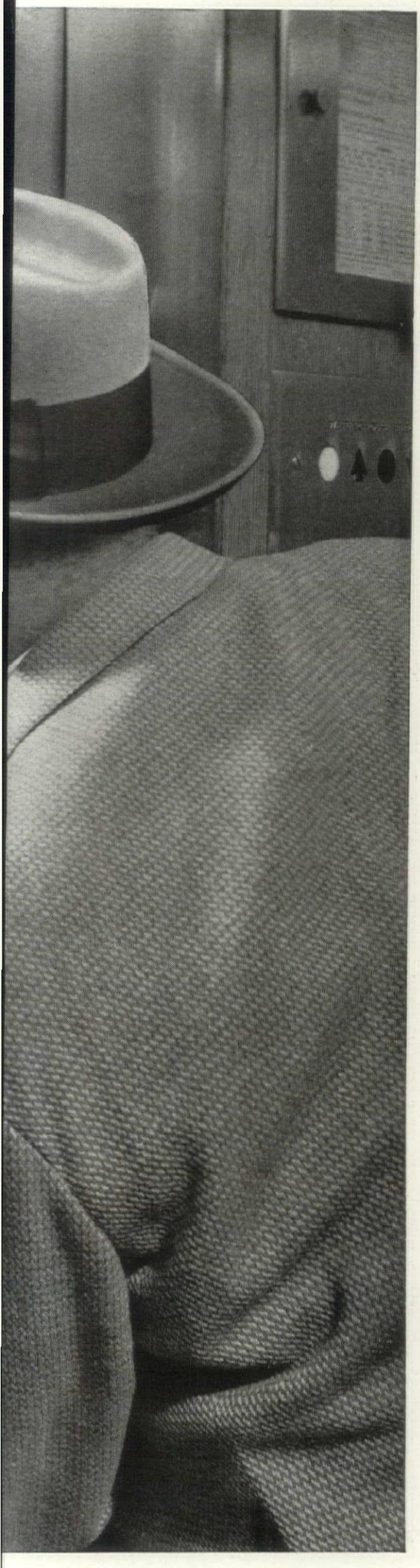
FULVUE (Vertical Slide)

"ALWAYS ONE STEP AHEAD OF THE WEATHER WITH RUSCO"

RUSCO Galvanized Steel PRIME WINDOWS

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Slow Down, Sister—
Another Elevator's Ready

In heavy-traffic buildings Westinghouse Selectomatic with Automatic Traffic Pattern Control is *continuously* alert to every passenger's whim. During the morning rush—at noon—at five—24 hours a day—this new, completely automatic control adjusts and readjusts itself as the traffic dictates.

It outdates predetermined clock or starter dial settings required in all previous supervisory systems. Automatic Traffic Pattern follows *any* changing traffic demand far more efficiently . . . turns starters into building good-will ambassadors . . . keeps traffic moving.

Automatic Traffic Pattern Control can be added to existing elevators to make them ultra-modern and it's ideal for new construction—with or without car attendants.

Find out more about Westinghouse Automatic Traffic Pattern Control by calling our nearest office.

Westinghouse Elevators

PASSENGER AND FREIGHT ELEVATORS • ELECTRIC STAIRWAYS

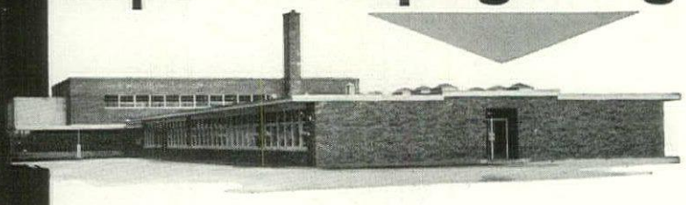
PROTECTIVE MAINTENANCE AND SERVICE

YOU CAN BE SURE... IF IT'S Westinghouse

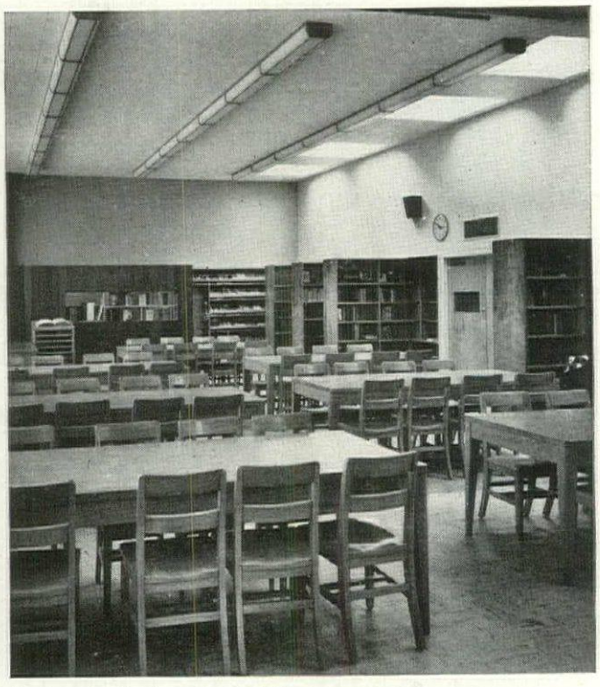
J-98685

wascolite skydomes

Tops in Toplighting



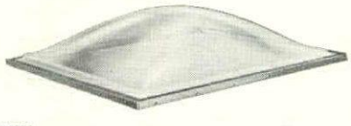
Skydomes are tops for schools because they allow greater freedom of design. They make it possible to have lower ceilings and simple frame construction, resulting in balanced, glare-free daylighting at lower cubage costs. Skydomes bring more daylight into the far corners of rooms and corridors . . . at a lower cost per square foot . . . than any other toplighting! To darken rooms for visual education, specify prefabricated Wascolite Skyshades.



Skydomes . . . acrylic plastic domes that literally float in extruded aluminum, flash-welded frames — are the product of years of Wasco engineering research. Their patented construction makes full allowance for expansion and contraction, and complete condensation control. They are economical, too, because they are easy to install, reduce illumination costs and are maintenance-free.

You can specify Wascolite Skydomes with confidence for school, home and industrial installations. Available in clear or white translucent plastic, in 3 basic shapes and 25 stock sizes.

Available now — a Wascolite Daylight Engineering Study for your project. Just send blueprint and lighting requirements — we will submit complete light distribution and illumination data. No obligation. For additional information, see Sweet's Catalog, or write



Wasco Flashing Company
89 Fawcett St., Cambridge 38, Mass.

LETTERS *continued*

NEW ORLEANS' "NEW" IDEA

Sirs:

I call your attention to an article which appeared over 45 years ago in your famed predecessor, *The Brickbuilder* [see below.—Ed.]. It is particularly interesting with relation to the school city idea recently proposed for New Orleans (AF, Apr. '53).

PHILIP WILL JR., *architect*
Perkins & Will
Chicago, Ill.

From *The Brickbuilder* (Aug. '07)
Schools in City Parks

"President Charles W. Eliot . . . has advocated a scheme, first proposed, we understand, by J. R. Coolidge Jr., the Boston architect, to relieve the congested downtown school districts and give the children better accommodation in more helpful surroundings. The idea is that the city should utilize the outlying parks as sites for school buildings to which the children from the slum districts could be brought by the elevated trains in the morning, and returned at the close of the sessions, the city supervising them in transit, and providing them with lunch and suitable opportunities for recreation.

"The problem of providing school facilities in the congested tenement house districts is a serious one both on account of the high cost of the land and the difficulty of obtaining adequate and satisfactory sanitary surroundings. . . . It is argued, however, with a good deal of truth, that Mr. Coolidge's scheme is far better. The land would cost the city nothing, the buildings would not constitute serious encroachment upon the larger parks, and the saving in first cost would more than offset the added expense of carfares, supervision and lunches, while the benefit to the children themselves from being out in the fresh air away from the slums of the city would, from a physical standpoint, be highly desirable. At the time the children would be using the cars for transit, the bulk of the travel would be in the opposite direction, and they could consequently be easily accommodated by the roads. This is a project which deserves very careful consideration. . . ."

WORLD FORUM

Sirs:

I enjoy your magazine and find it full of news and ideas of the building business. . . .

As your magazine is widely read all over the world, it seems that it does not belong to the US only, but to the world. I would like examples of modern buildings from the old world and from the other countries to appear now and then in the magazine. This would help bring the different architectural minds closer and give a broader view of things carried out all over the world.

MRS. CELILE BUTKA
Istanbul, Turkey

continued on p. 96

REVOLUTION IN THE SKYLINE

WITH Sealuxe METAL-GLASS FACADES



MILE HIGH CENTER
Denver, Colorado

WEBB & KNAPP, INC.
Architects
New York City, N. Y.

UNIVERSAL, Home of "Miracles in Metals" and Sealuxe Engineered Products, is proud to have a part in creating this new, ultra-modern center in Denver. Universal's cast aluminum spandrels, porcelain enamel fascias and aluminum windows combine beauty with function in this Mile High Center—a structure designed for the future for use TODAY! This is continued proof that SEALUXE Metal-Glass Facades are creating a Revolution on the Skyline!

UNIVERSAL can help solve your design and engineering problems. Authorized agents are in ALL of the Architectural Centers to assist you.

Sealuxe *Engineered Accessories!*

- **Browne "Folding Flue" Windows**
- **Ventilating Picture Windows**
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- **Weather Controls**
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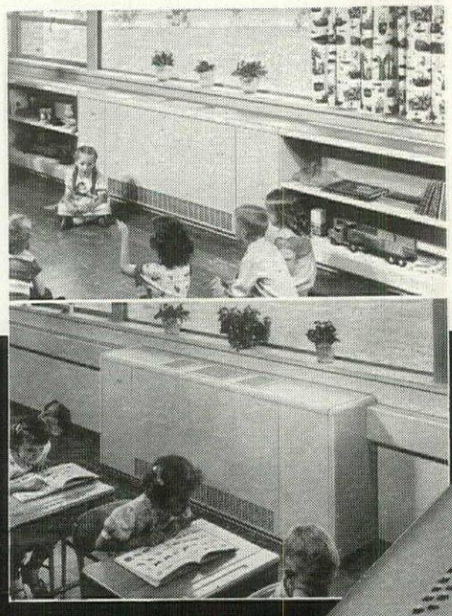
Universal CORPORATION

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ENGINEERING • MANUFACTURING • INSTALLATION

J. P. TRAVIS, *President*, Creator of *"Miracles in Metals"*

Now! Stop classroom



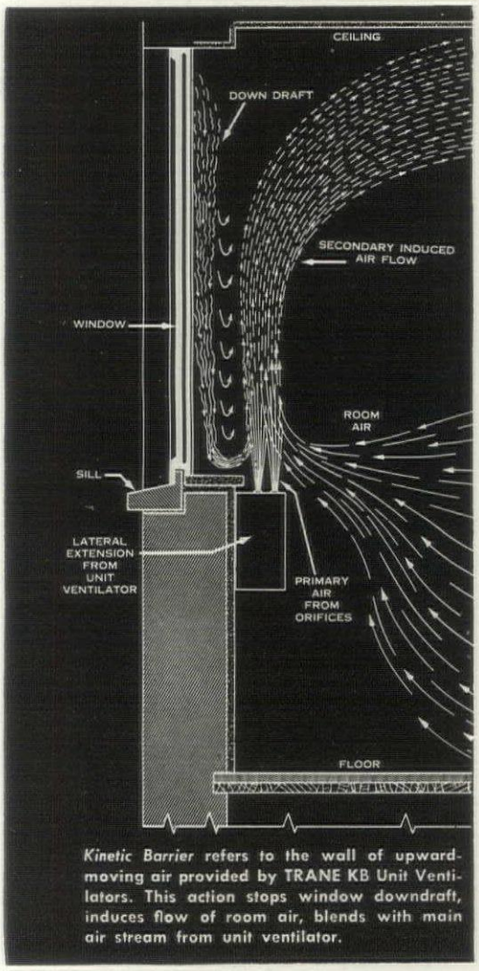
Available with . . .
or without shelving

The exclusive new TRANE

MANUFACTURING ENGINEERS OF AIR CONDITIONING, HEATING AND VENTILATING

drafts before they start!

New! Exclusive Trane Unit Ventilator System creates Kinetic Barrier which (1) stops window downdrafts every minute room is occupied, (2) improves distribution of heated and ventilated air, and (3) operates quietly —virtually noise-free.



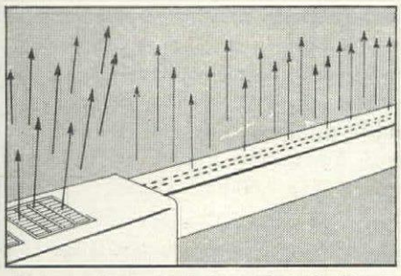
Kinetic Barrier refers to the wall of upward-moving air provided by TRANE KB Unit Ventilators. This action stops window downdraft, induces flow of room air, blends with main air stream from unit ventilator.

Not since the first unit ventilator has there been such a significant improvement in school comfort.

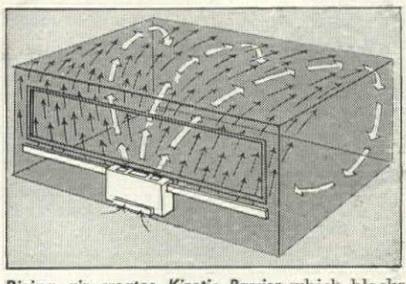
The new TRANE Unit Ventilator System actually accomplishes what architects, engineers, contractors and school authorities have long agreed would be the ideal.

How Trane System differs. The use of *warmed* air for intermittent "blanketing" of windows during the heating cycle has been common practice for many years. However, this still leaves pupils exposed to downdrafts since *cooling* is required about 75% of the time due to high heat gains. The new TRANE system differs in that it is effective *at all times*—during cooling as well as heating cycles. *It operates every minute the room is occupied . . . even when the heat is off.*

HOW TRANE *Kinetic Barrier* SYSTEM WORKS



Outdoor and room air is drawn into the TRANE Unit Ventilator in desired proportions where it is blended, filtered and brought to the proper temperature. It is then *forced upward* from the central unit and from lateral extensions along the entire window wall.



Rising air creates *Kinetic Barrier* which blocks drafts at source, draws room air to ceiling. These air streams blend and circulate around room in a continuous draft-free cycle. Air fans out from central unit, assists air from extensions to penetrate every corner.

Report describes new system in detail. Just published. Contains results of an investigation of the TRANE *Kinetic Barrier* System of unit ventilation operating in an actual "problem" classroom during the winter of 1952. If you are concerned with modern schoolroom heating and ventilation, this report is "must" reading. Call your TRANE sales office for a copy today.

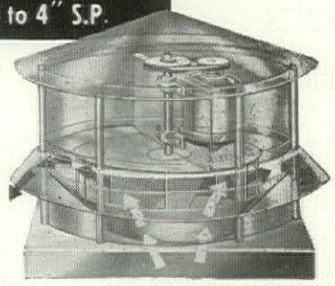
Trane matched products fit every school need . . . Convectors • Wall-Fin Heaters • Volume Ventilators • Projection Heaters • Horizontal Unit Heaters • Force-Flo Heaters • Climate Changers • Compressors • Air Conditioners • Water Chillers • Fans • Coils • Traps and Valves.

Kinetic Barrier system of Unit Ventilation

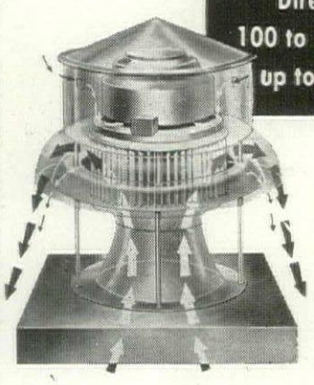
EQUIPMENT • The Trane Company, La Crosse, Wis. • East. Mfg. Div., Scranton, Penn. • Trane Co. of Canada, Ltd., Toronto • 87 U. S. and 14 Canadian Offices.

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GALLAHER CERTIFIED RATINGS
mean Peak Performance

NEW Belt Drive 4000
to 65,000 CFM
up to 4" S.P.



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HERE'S WHY

Gallaher ratings are the result of actual physical tests of the entire unit—*not* a fan wheel alone or other component, *not* interpolations of free air data, but a true picture of the unit as it operates under actual conditions.

Any other method of rating a power roof exhauster will be inaccurate. Gallaher research has shown conclusively that the errors may run as high as 50% when ratings are mere theoretical calculations.

Gallaher units with patented, built-in *scroll effect* are the only power roof exhausters which can develop high static pressures. With this feature, thousands of industrial applications are well within the range of economical power roof exhausters. They have been rated in an independent laboratory under the direction of a nationally recognized authority under the conditions prescribed by NAFM and ASH&VE.

Before you buy power roof exhausters we think you'll agree that these three questions should be answered to your satisfaction. 1. How were the tests conducted? 2. Did it include the whole unit and not a component? 3. What impartial authority conducted the tests? We think that you'll buy Gallaher Air-Vans.

For full information write Dept. A-7

The GALLAHER Company
4108 DODGE STREET OMAHA, NEBRASKA

LETTERS *continued*

SCHOOL FURNITURE

Sirs:

Reading through an old issue of your excellent magazine (Oct. '52), I find this question: "Do not modern school programs demand furniture which is movable and stackable, so that either a large working surface can be formed for, say, painting, or most of the floor cleared for the construction of a model?"

Functional furniture, unlike functional building, is designed to accommodate the individual, rather than the group. If, as I believe, the comfort of the individual child, or his convenience, must be sacrificed to gain the flexibility of arrangement which would allow formation of large surfaces (by combining the individual small ones, I assume), the whole idea should be discarded.

Among the purposes of furniture, and especially school furniture (since about one-seventh of a person's life is spent in primary and secondary schools), are comfort, convenience, discipline, and beauty—all these as they relate to the individual, and not to the group. When any of these integral aspects of design is removed, an injustice is done to the person who should receive the full benefits made available by the presence of them all.

Rather than submit students to the harsh, uncompromising design of multipurpose furniture, we should give them a design for every purpose—a feat which, in the "democratic socialism" of public school administration, should be far from impossible, if funds are reserved for worthy furnishings upon commencement of a building project.

FRANK C. MOFFETT
Designer of custom furnishings
Yokohama, Japan

HOSPITAL CENTERS

Sirs:

It was stimulating and fascinating to read in your May issue of the concrete approaches being made to the problem of comprehensive medical care.

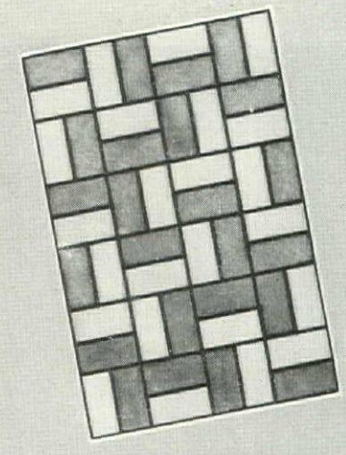
I was particularly fascinated to learn that Joseph Neufeld has been conducting hospital design classes at Yale for students of the School of Architecture and the Graduate School of Hospital Administration and Public Health.

When this procedure is followed by all schools of hospital administration and public health, great strides will be made in the actual operation of medical facilities, particularly hospitals. The sooner students are taught that all theories of operation and planning must be related to a physical environment, the greater will be the progress.

DOROTHY A. HEHMANN, *assistant director*
American Federation of Medical Centers
Detroit, Mich.

continued on p. 98

tiles
by SPARTA



Spartan Ceramics are made in a variety of ceramic mosaic colors and sizes to meet a wide field of suitable uses. Above is illustrated Design No. 130, indicative of an inviting range of color designs in low cost

SPARTAN
MOSETTES

These are unglazed ceramic tiles fired at high temperature, assuring ruggedness, impermeability, slip-resistance, and a high degree of vitrification. Available in sizes 1x1, 2x1, 2x2, ¼" thick in a wide range of colors. Extremely versatile and easy to set in irregular shaped spaces. Write for descriptive sheets showing many standard patterns.

Practical for Floors in
SCHOOLS • HOSPITALS • INSTITUTIONS
also SWIMMING POOLS

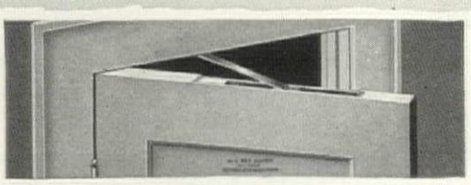
THE SPARTA CERAMIC CO.
P.O. BOX 3, EAST SPARTA, OHIO

"... the patient must have absolute quiet."

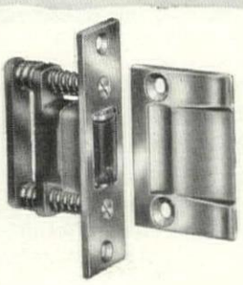


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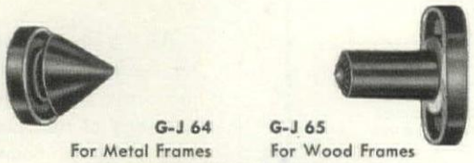
devices for HOSPITAL ROOM DOORS



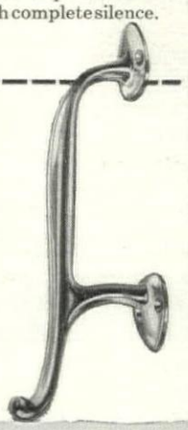
G-J 320
Concealed Door Holder—Friction Control
. . . keeps the door stationary, always under control. Prevents idle swinging and slamming. Gentle hand pressure moves the door to desired positions.



G-J 30
Roller Latch
. . . eliminates the annoying click of latch bolts. As the door is closed, the rubber roller contacts the strike and becomes engaged in the strike plate depression—with complete silence.



G-J 64 For Metal Frames
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Pneumatic Rubber Door Silencers
. . . form pneumatic air pockets when compressed by closed door. This provides exceptional cushioning power to prevent both door noise and latch rattle.



G-J KH-1
Hospital Door Arm Pull
. . . helps nurses and attendants avoid waste motion and unnecessary noise by permitting them to open and close doors with their arms, when their hands are occupied with trays or other articles.



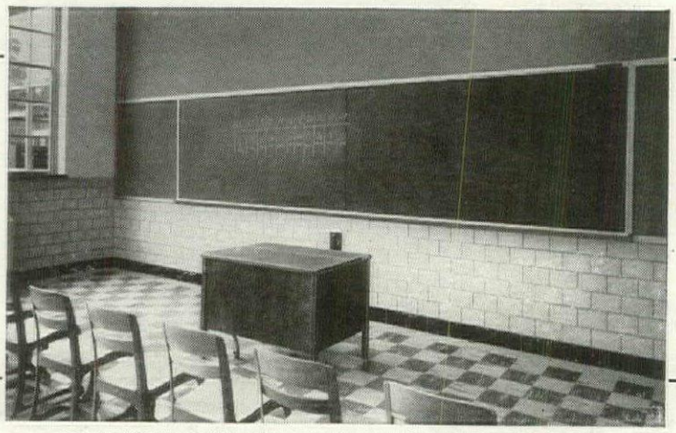
These and many other G-J door devices are today being used on every type of door in thousands of hospitals and institutions throughout the nation, where, in addition to providing complete, efficient, and economical service, they are answering the need for silent performance of duty, expressed by the doctor's caution, "*Above all, the patient must have absolute quiet.*"

4544

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4422 N. Ravenswood Ave. Chicago 40, Illinois

Refer to G-J Catalog for complete line of door holders, bumpers, and specialties . . . for all types of doors in public and commercial buildings.

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BERGEN COUNTY VOCATIONAL SCHOOL—ARCHITECT: LAWRENCE C. LICHT, ENGLEWOOD, N. J.

The days of the old "blackboard" are numbered. And here are plenty of good reasons why the attractive green porcelain-on-steel *Armorply Chalkboard* is taking its place in schools, offices, hospitals, and terminal buildings . . . for visual aid work, personnel training, production control, scheduling, and so forth.

1. Takes chalk beautifully.
2. Never needs resurfacing—the color of Armorply Chalkboard is constant throughout, from face to base.
3. Resists abrasion, scratching, chipping, cracking or denting.
4. Cannot shatter or break under impact, stress, temperature changes or concussion.
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6. Can be permanently installed or used as a portable unit.
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10. The porcelain*-on-steel surface attracts magnets—outstanding for visual aid instruction.
11. Never needs repair or replacement.
12. Guaranteed for the life of the building in which it is installed.

SPECIFICATIONS

The porcelain-enamelled steel face of an Armorply Chalkboard panel is a three-coated special composition of ceramic porcelain, fired on 18 ga. enamelling steel at high heat, under special control. It is bonded to exterior grade Weldwood fir plywood with .015 aluminum backing sheet.

SIZES: Standard Stock Size Panels:
Widths 36″, 42″, 48″
Lengths 72″, 84″, 96″, 108″, 120″
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Widths 36″, 42″, 48″
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LETTERS *continued*

FULLER'S DOME

Sirs:

It is a source of great pleasure to a great many friends of Bucky Fuller to see that his genius is at last being recognized in the field of commerce and industry. He certainly deserves all that he can get for his years of pioneering.

As your article in the FORUM (May '53) indicates, what is most needed today is ". . . someone [who] is willing to back [architectural and engineering ideas] with his dollars and prove they are as practical in fact as they are exciting in concept." By publishing "dream stuff" the FORUM helps to make these ideas practical.

ROBERT L. DAVISON
Research director
Howard T. Fisher & Associates
New York, N. Y.

Sirs:

Fuller is moving toward a more efficient use of the structural characteristics of space units and frames. This is the type of structure which lies at the threshold of our new era of structural design. It deserves the considered attention and support of engineers and architects so that by the development of proper standards the economy of such a new approach may be brought into line with conventional construction and perhaps lead to much lower costs. . . .

WALTER C. VOSS, *consultant*
Cambridge, Mass.

Sirs:

All "3-Dimensionalists" will be delighted by Bucky's Ford dome. From this side of the ocean may we venture one remark: that geometry of the sphere is alas not concerned with a logical dome design. The functional design should have been a paraboloid of revolution, which could be very flat since a peripheric tie rod would annul the thrust. Shortening the development would have probably reduced the weight of perhaps 40%, leaving the necessary slope for rainfall.

. . . But criticism is easy and work difficult. "Bravo" and congratulations both for the designer and the client.

R. LE RICOLAIS, *engineer*
Paris, France

Sirs:

Anything novel, like the Buckminster Fuller dome for the Ford Rotunda (AF, May '53), is of interest not only in a specific application, but also as a tool in working out other problems. But the presentation must not be misleading. That this dome has publicity value is proven by the wide publicity given it. But when the impression is left that a 2½ lbs. per sq. ft. aluminum and plastic dome is equivalent to 50 lbs. of steel necessary for a normal structure, the uninformed are led astray.

continued on p. 102

No detail of planning was overlooked in making this new Youth Study Center one of the finest of its kind. Reinforced concrete was selected for the building's framing and floors.

The design includes flat wide beams which span the full width of the building. This framing method permitted a considerable reduction in the total height of the building as compared with conventional deep beams.

Not only did reinforced concrete permit greater flexibility of design, but it also proved *more economical*. Moreover, materials were readily available from local sources.

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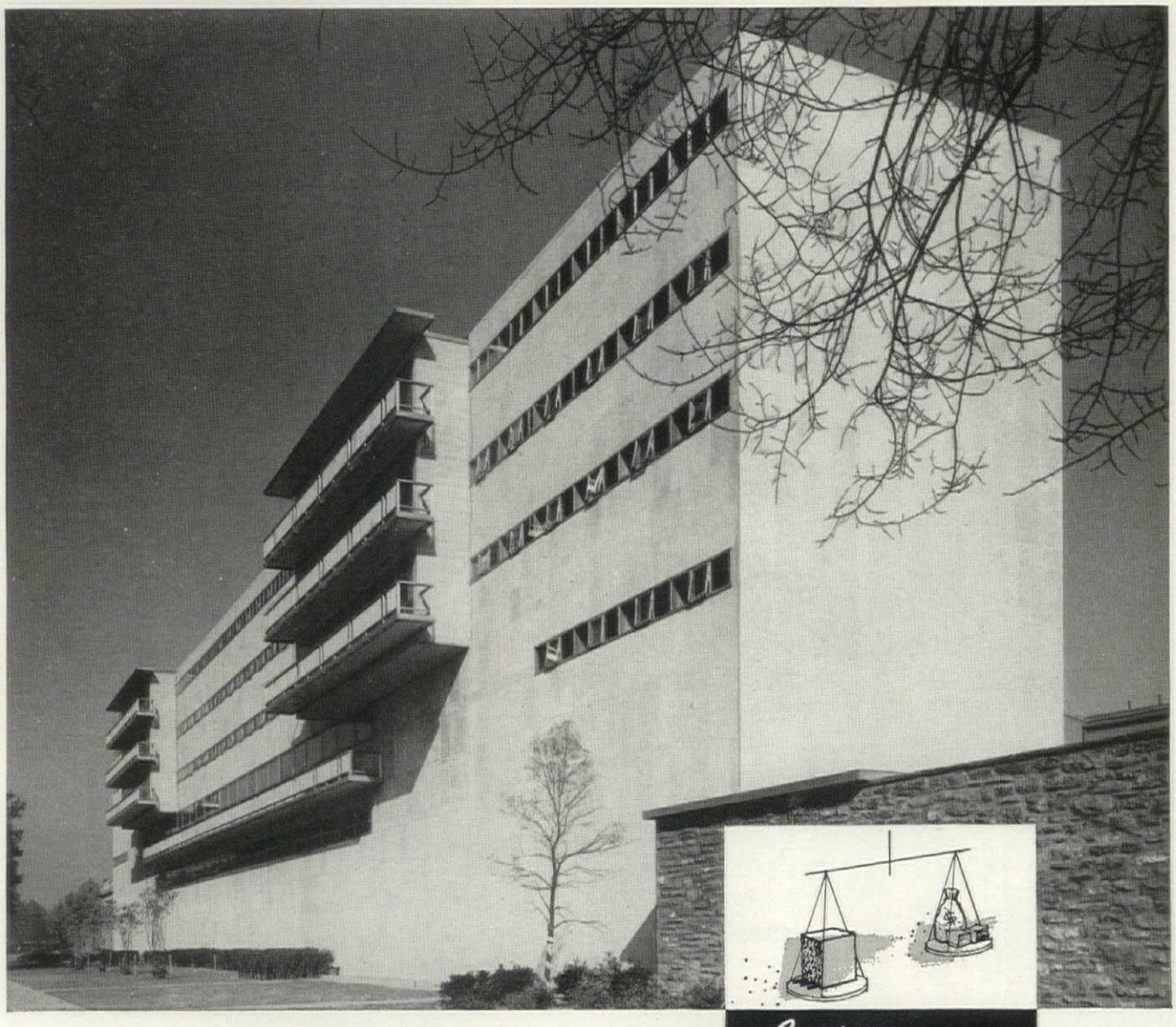
Youth Study Center, Philadelphia, Pa.

Architects: Carroll, Grisdale & Van Alen

Structural Engineers: Severud-Elstad-Krueger

Contractor: McCloskey & Co.

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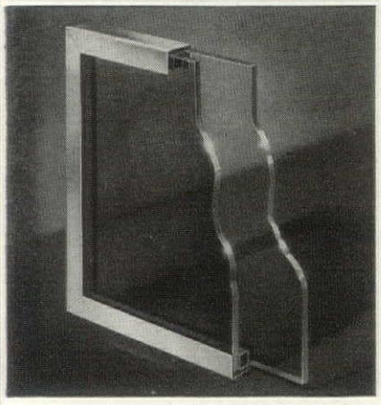
CONCRETE REINFORCING STEEL INSTITUTE



THIS NEW BUILDING, housing the Los Angeles, California, division office of Lever Brothers Company, utilizes Solex heat-absorbing, glare-reducing glass for the greater comfort of its occupants. For Solex transmits about 75% of the total solar light, but absorbs at least 50% of the total solar heat. In this structure the reception room extends upward the full height of the building, with the side walls glazed with Solex. Among the other Pittsburgh products installed here are fourteen Herculite Doors, Polished Plate Glass, and Plate Glass Mirrors. Architects: Bechtel Corporation, Los Angeles, Calif.

How Pittsburgh Glass figures in present-day architecture





IN ALL KINDS of commercial structures, the use of Pittsburgh Plate Glass enhances the over-all attractiveness of the design. This automobile showroom in Brooklyn, New York, is an excellent example of the integration of large areas of glass to create an open-vision front of immediate appeal. Here, three big Twindow show windows are ingeniously contrived so that, at the touch of a switch, they descend into a slot in the floor. This permits the quick movement of cars from the showroom to the street. Vita Automatic Windows, Inc., Woodside, L. I., New York. Nathan R. Ginsburg, A.I.A., Architect, New York City.

SOLEX–TWINDOW units, as shown in this sectional view, consist of two panes of glass. The outer is green-tint Solex . . . the inner is clear Plate Glass. Between them is a sealed-in air space. A stainless steel frame protects the seal and glass edges, makes handling safe and easy. These units offer the dual advantages of Pittsburgh's Twindow —"the window with built-in insulation"—and the heat-absorbing, glare-reducing properties of Solex—"the best glass under the sun!"

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This flooring will be a prestige builder for you twenty years from now. It will continue to confirm your good professional reputation.

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LETTERS *continued*

The 320′ span steel dome for the Charlotte Coliseum required only 13.5 lbs. of steel per sq. ft., even with a heavy roof. A plastic-covered steel dome spanning 93′ would weigh about 7 lbs., not 50 lbs.

Economywise, the great amount of field work, reflected in 30 working days for the crew, goes counter to the modern trend of the "sweat of the brow" being replaced by mechanical "toys."

FRED N. SEVERUD
Severud-Elstad-Krueger, consulting engineers
New York, N. Y.

HOSPITAL ARCHITECT

Sirs:

Your article about the personality and work of Marshall Shaffer in May FORUM has reminded me of the winter of 1948 when, with some colleagues of the US and of some other American countries, I had the privilege of his friendship and his leadership during the course on hospitals at the Public Health Service in Washington.

Our natural timidity at the beginning changed into the most exquisite comradeship between professors and pupils, thanks to the continuous intervention of Shaffer. From him and from his collaborators we received not only valuable instruction but real help in studying the serious problems that our governments commended to us.

We are indebted to Shaffer and his team for their enormous research work and for their fantastic educational work. Their help spreads to the most distant parts of the world where they have actually contributed to fix a modern and organic concept of the hospitals and health centers. I am sure that this is the most interesting facet of the work carried on by Shaffer from his desk at the P.H.S.

These are the reasons why I consider it a real hit for you to have selected Marshall Shaffer as the man of the month for FORUM.

From Bogota, I join you in the homage to Marshall Shaffer.

GABRIEL SERRANO CAMARGO, *architect*
Bogota, Columbia

HOTEL BIBLE

Sirs:

We use FORUM as a Bible for material and equipment on all of our projects. We have gotten most of the ideas for our planning from reading of the experiences of others who have done jobs before us. We are always on the lookout for improvements and new things. We feel that FORUM usually presents them first.

Although we are primarily interested in hotel construction, there are many things to be learned from other types of building.

H. T. MIMS, *vice president and director*
Hotel Webster Hall
Pittsburgh, Pa.

continued on p. 104



Excellence of color work in concrete materials begins with the whiteness of the cement used. This is true regardless of whether the color is to be achieved by exposed colored aggregates; or by the addition of pigments to the mix.

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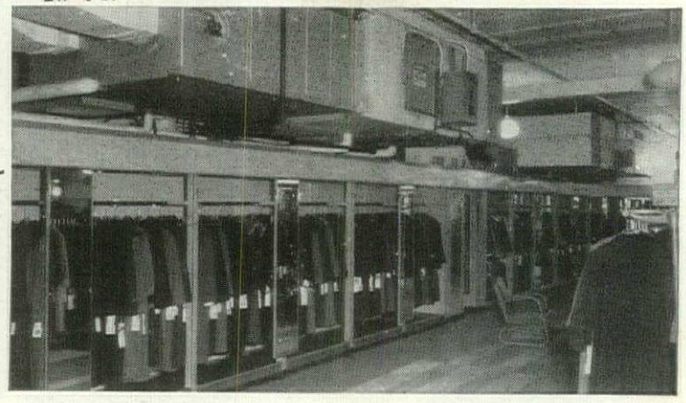
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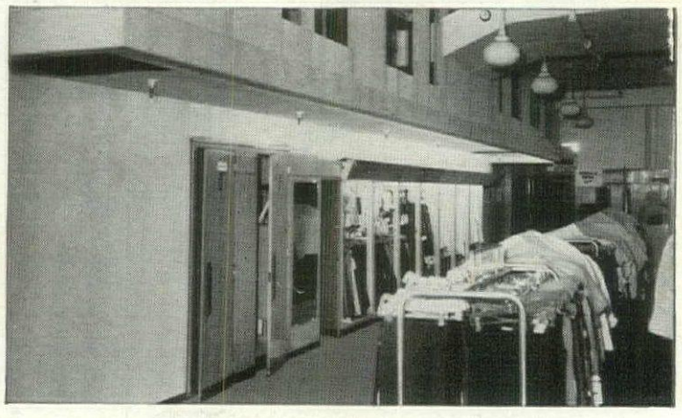


"Buffalo" AIR CONDITIONING INSTALLED —No Space Wasted



Installation photo showing how PC Cabinets fitted into unused space.

—And Ohrbach's Customers Shop in Comfort



Neat partitions enclose the PC Cabinets at Ohrbach's. Consulting Engineer: Edward E. Ashley, N.Y.C.
Air Conditioning Contractor: Eugene J. Brandt Co., Inc., N.Y.C.

THIS installation of "Buffalo" PC Air Conditioning Cabinets in Ohrbach's famous Newark, N. J. store illustrates how adaptable these units are. These compact, flat, suspended units fit neatly between the ceiling and clothing display racks, thus taking up no floor space, yet providing full comfort facilities for Ohrbach's shoppers.

Besides the units shown here, "Buffalo" builds models to fit a variety of space requirements—among them, vertical VPC Cabinets—all equipment of proven quality. Whether you are concerned with new-building plans or remodeling, you'll find a "Buffalo" Cabinet to fit the job perfectly, and give complete satisfaction. Why not have us mail you Bulletin 3703B. It contains helpful engineering information on solving *your* comfort conditioning problem!

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LETTERS *continued*

VAN DER ROHE'S STEEL

Sirs:

I would like to express a point of view on Mies van der Rohe's use of structural steel sections on the exterior of buildings recently published in the FORUM.

I always like to stop and look at tools when I walk by a hardware store. As a designer I envy very much the authority of their forms. Like forms in nature, they have evolved anonymously through time to reach stable and sensitive equilibriums between the forces of material, function and economy. No one would criticize the proportion of a pair of machinists calipers—it would be like criticizing the proportions of a mountain or the colors of a sunset.

The same thing can be said about structural engineering and industrial construction. Form in these fields has a sort of psychological momentum, a strength which comes no doubt from the nature of the discipline that determines it, which is a science, social rather than personal. You can read a lot of books about architecture, but for sheer authority none of them can compare with the AISC Steel Handbook.

Starting then with my own feelings in front of the hardware store window, I have come to the conviction that an underlying motivation in the work of modern architects is this envy of the authority of engineering, accompanied by a natural desire to share in it. This urge, reinforcing the practical necessity of using present-day materials and techniques, results in a vigorous and convincing architecture in which forms of an engineering origin form a prominent part visually. Barthelme's West Columbia Elementary School (AF, Oct. '52) is an excellent example.

But Mies van der Rohe takes a shortcut. Seeking the same authority of form, he uses the engineering element directly, out of context—applied. It is the technique of primitive magic, whereby the warrior seeks to acquire the courage of his fallen enemy by swearing the enemy's blood on his body.

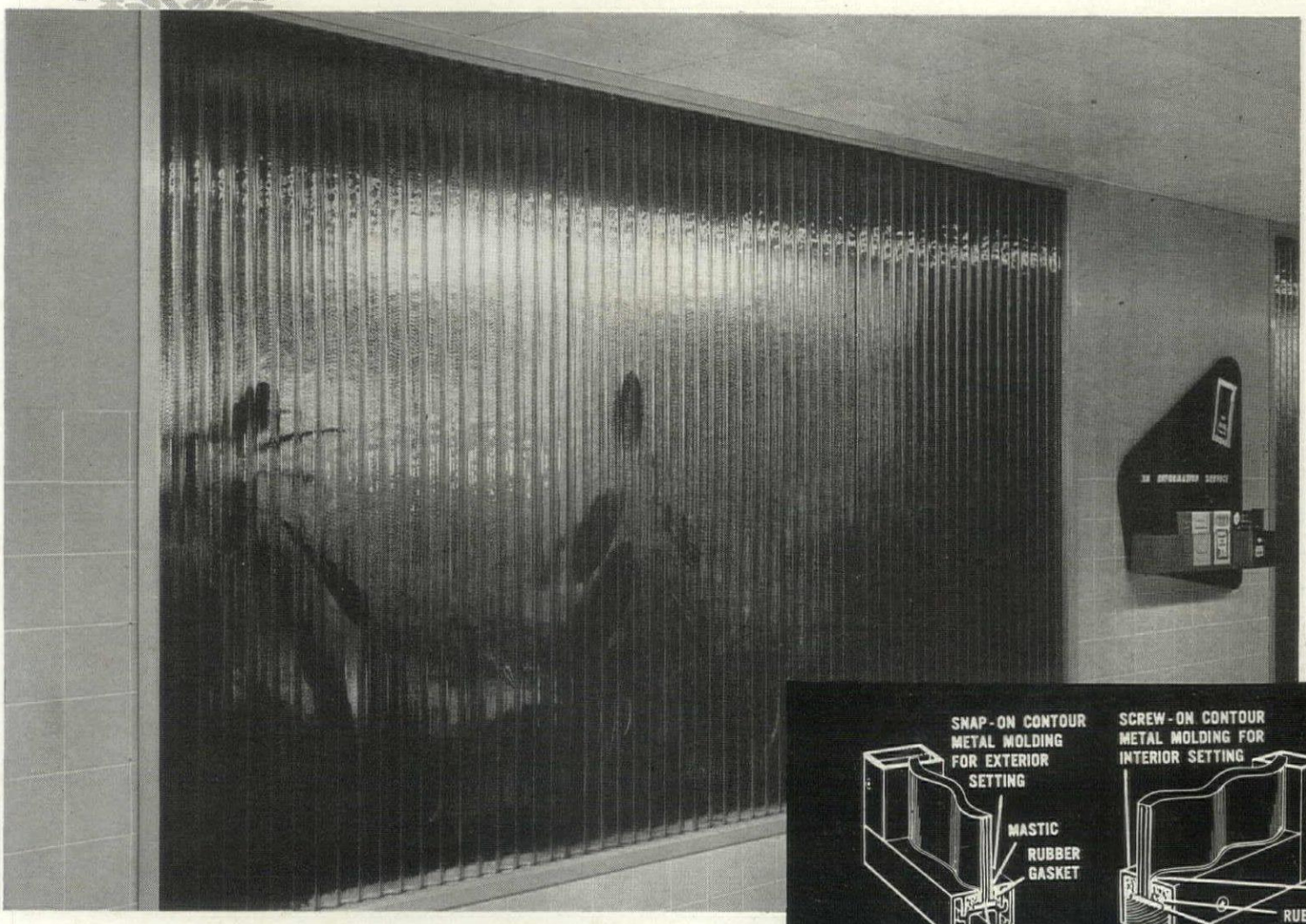
Magic doesn't work. It has been tried in architecture for many, many years, down to the jaded businessman who, seeking the vigor and simplicity of medieval life, adds hewn oak beams to his living-room ceiling, complete with handmade worm holes.

Rather than gain the strength and authority of the steel members which he so eagerly applies, such an architect will gain nothing but will slightly—very slightly—detract from the model which he imitates.

ERNEST WRIGHT, *designer*
Belmont, Mass.

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Partitions of Structural Corrugated glass in Minnesota Mining & Mfg. Co. set in contour molding, manufactured by O. E. Stelzer Co., South Bend, Indiana. These moldings enhance appearance, contribute ease of installation and amplify design possibilities.

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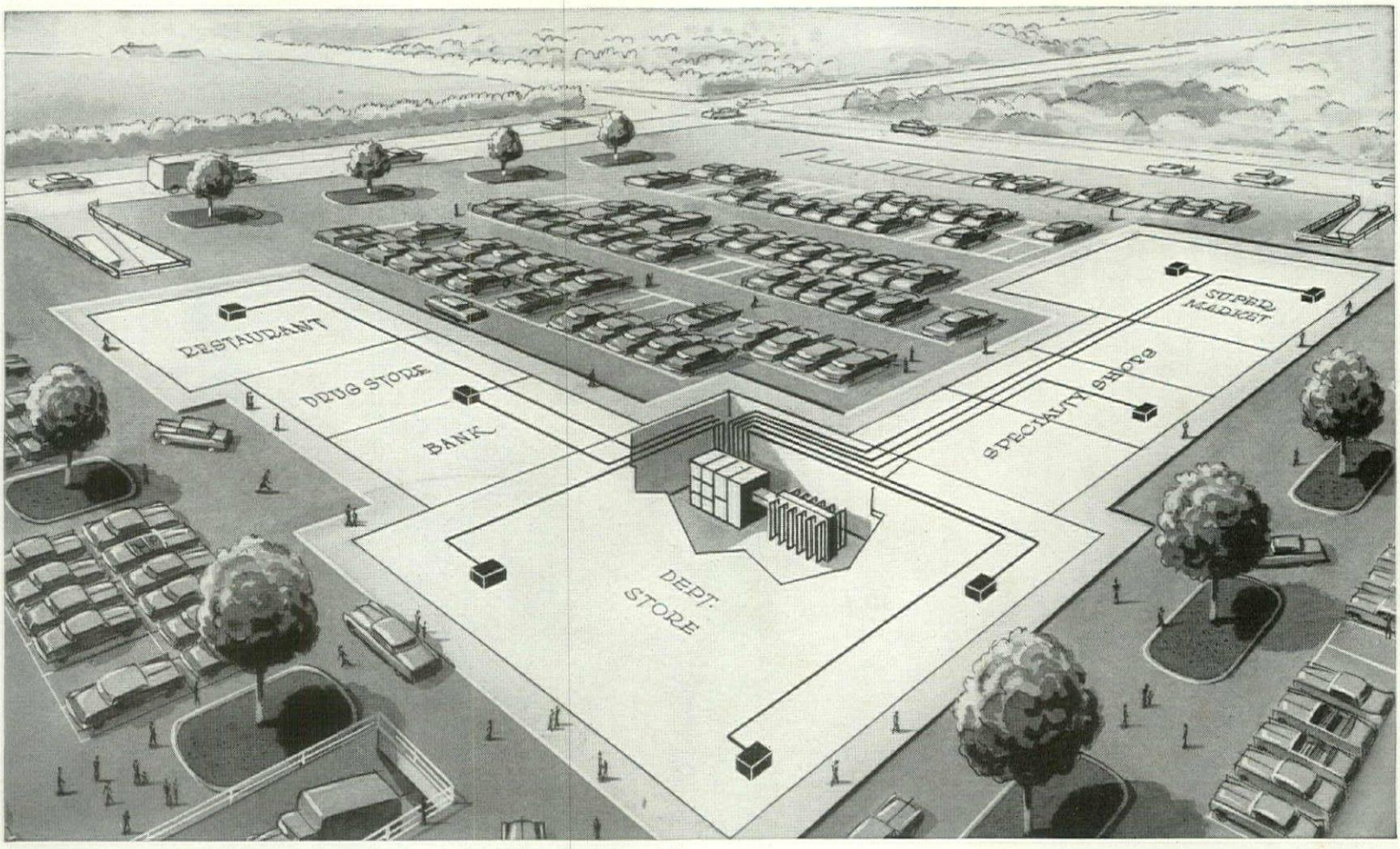
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New thinking on OFFICE BUILDINGS

Here are six big questions around which centers most of today's thinking about tomorrow's office buildings:

1. Windows. Should they be bigger than ever (as at Lever House and UN) or do air conditioning and high-level artificial light so reduce the function of windows that they should be made not larger, but smaller (as at Alcoa)? Do tenants like the big glass areas or do they find the glare disturbing? Are tall windows worth the extra cost in air conditioning if tenants will pull the Venetian blinds halfway down anyway?

2. Volume. Do air conditioning and modern lighting upset the economics of construction in such a way that deep space is more profitable than ever? Yes, say most of the postwar builders. No, says Lever House. No, says Bob Dowling at Penn Center. No, says Alcoa. No, says Gateway Center. Deep space used to be cheap, but with air conditioning and high-lighting intensities it now costs almost as much as space near a window, so it is as poor a long-term investment as ever.

3. Curtain wall. How far can we get away from the heavy masonry with which the last generation of designers preserved the illusion of structure?

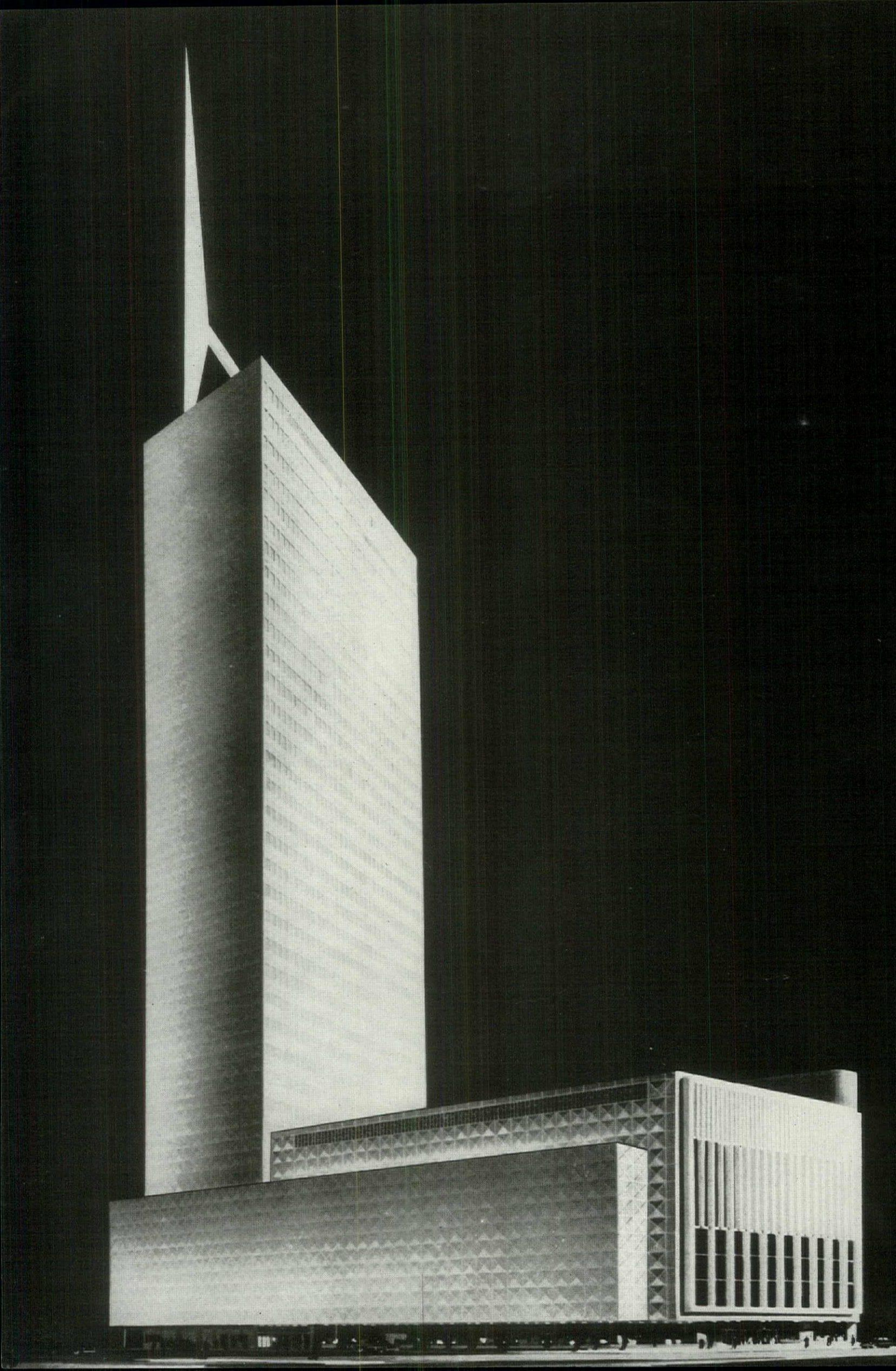
4. Exterior design. Vertical? Horizontal? Honeycomb? Or what?

5. Design integration. How far should the new engineering features of today's office building find expression in their exterior design?

6. Ground floor. Can stores still be expected to pay the ground rent? Or has such a surplus of stores been built that it is now unprofitable to create retail space in office buildings?

No final answer to any of these questions is yet possible, but on the pages that follow are some very suggestive ideas.

- The discussion of postwar office building facades (p. 118) traces a dozen solutions to the new design problems posed by the continuous window—beginning with the bold exaggeration of the dark and white candy stripes on Kahn & Jacobs' Universal Pictures building in Manhattan, and ending—for the moment—with TAC's proposed office town for Boston.
- The Zeckendorf-Pei project for Denver (p. 114) suggests a compromise on bulk, with one side of the floors providing shallow space for executive offices; the other side, deep space for clerical operations.
- There is argument for eliminating ground-floor store space in the Zeckendorf-Pei building—on the theory that only 10¢ more rent per foot of office space will offset lost ground-floor revenue and that stores would lower the tone of the building.
- An experiment in more advanced curtain-wall design is contributed by Harrison & Abramovitz in their Republic National Bank building for Dallas (p. 108), where wall thickness is reduced to 1½".
- There is the suggestion that opacity can be as dramatic as transparency in Lloyd and Morgan's Melrose Building in Houston (p. 112) and the additional suggestion that colored tile can replace glass to give excitement to a building.



New thinking on curtain walls and window sizes

for new Dallas skyscraper and bank building by designers of UN Building

HARRISON & ABRAMOVITZ, GILL & HARRELL, architects
EDWARDS & HJORTH, structural engineers
JAROS, BAUM & BOLLES, mechanical engineers
J. W. BATESON, contractor

Designed by the same architects who produced the UN's all-glass Secretariat and Alcoa's aluminum headquarters, this new Houston skyscraper for the Republic National Bank differs from its predecessors in several notable respects:

▸ The curtain wall is the thinnest yet built: a 1½″ thick insulated aluminum panel without backup. (The UN's glass-covered spandrel wall is 8″ thick; the Alcoa wall, 13″.) The prefabricated panels are bolted in place over the spandrels with a 4″ air space between the perimeter heating units and the panels. To give rigidity to this thin curtain, the architects specified 4″ x 10″ reinforced concrete stiffeners or mullions every 4′-5½″.

▸ The window design differs radically. In the UN, Architects Harrison & Abramovitz ran the 8′-3″ windows clear to the ceiling. In the Alcoa Building they used separate small (4′ x 4′) windows almost like portholes. Here, in collaboration with Architects Gill & Harrell, they use a compromise height of 5½′ to cut air-conditioning tonnage and sky glare and use a continuous design for flexible partitioning.

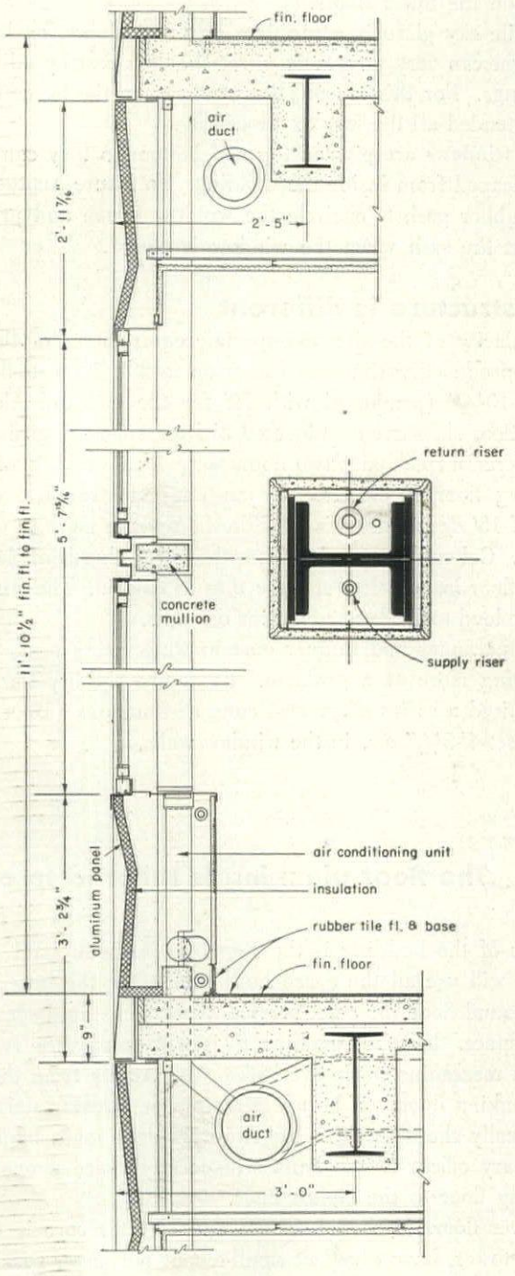
▸ The floor planning of the office tower features a central utility core, very much like Rockefeller Center's buildings and Pittsburgh's US Steel Building, not like the thin UN slab with its along-the-wall utility core. Reason: the bank wanted lots of small tenants as potential depositors and a plan with the core in the center and divisible perimeter space around it provides top-grade space for many small tenants.

The walls are thinner

Anodized aluminum panels that fit over fireproofed spandrel beams are more advanced than those used on the Alcoa Building. Like the Alcoa panels, they have a pattern impressed on them to increase rigidity and prevent oil-canning. But where the Alcoa panels are simply sheets of ⅛″ aluminum, the Republic panels are complete wall sections in themselves: 1½″ of insulation with aluminum-foil vapor seal cemented to ⅛″ aluminum. And where Pittsburgh codes required 4″ of perlite backup, the wall in Dallas needs none.

Comparatively, the walls stack up like this:

	thickness	weight per sq. ft.
Alcoa	6″-13″	40 lbs.
Republic Bank	1½″	4 lbs.



***Thinnest curtain wall** yet built is formed of 1½″ insulated aluminum panels with no backup. Window pivots top and bottom for cleaning, has a double set of rubber gaskets that press against aluminum frame to keep out weather.*

***Aluminum and glass:** west side of office-bank building is sheathed with light aluminum panel walls that contrast with the bands of continuous windows on the other three sides. The 36-story tower provides rentable office space, while banking activities fill nearly all the lower seven floors.*

The windows are smaller

In the UN, the same architects not only ran the window clear to the ceiling but also built in a recessed pocket to house the retracted Venetian blind so it would not block any daylight. As a surprise, however, workers kept their blinds at half-mast most of the time to block sky glare. More unsettling was the knowledge that running the windows to the ceiling had increased air-conditioning tonnage requirements nearly 50%. With this knowledge, the architects wanted the Republic Bank Building windows to be only 4½′ high—as in the Alcoa Building—compared with the UN's 8′-3″. However, Republic owners insisted on 5½′ windows on the tower floors.

While sky glare is a problem on tower floors, on lower floors daylight can very pleasantly offset shadows cast by adjacent high buildings. For this reason, the windows on the lower four floors are extended all the way to the ceiling.

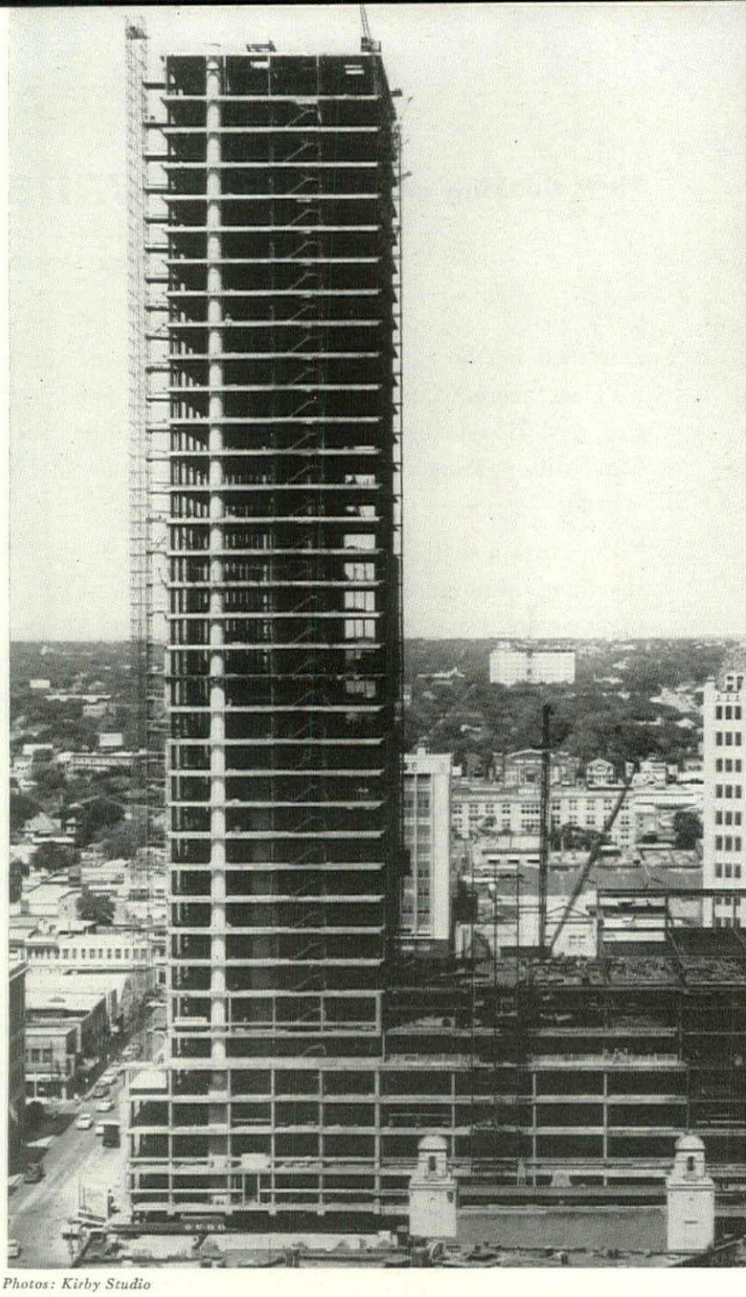
All windows are pivoted top and bottom so they can be turned and cleaned from inside the building. To insure weatherproofing, two rubber gaskets encircle the window frame and press tightly against the sash when the window is closed.

The structure is different

Irregularity of the site and special requirements of the banking floors produced various-sized bays up to 28′. Floor-to-floor height is 11′-10½″ (compared with 12′ for the UN and Alcoa). The 4½″ floor slabs are cantilevered 3′ from spandrel girders.

A column-free space two floors deep in the middle of the main banking floor is obtained by an unusual structural device. A row of 15′ deep trusses is used on the seventh floor (a mechanical floor). Columns suspended from the lower chords of these trusses carry floor loads below and are thus in tension. The trusses transfer the load to the heavy exterior columns.

With thinner and thinner curtain walls being used, rigidity is becoming more of a problem. To assure rigidity the architects introduced a series of precast concrete mullions (10′ x 4″ in section) set 4′-5½″ o.c. in the window walls.



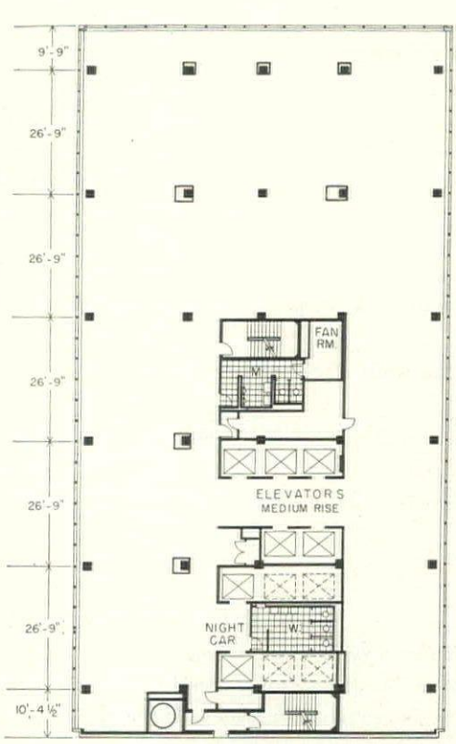
Photos: Kirby Studio

The floor planning is tailored to one big bank, many small tenants and 330 automobiles

Owner of the building is the Republic National Bank of Dallas, which will use all the space built except for the tower. To free the ground floor for bank service departments and some rentable store space, the main banking floor will occupy the second floor with a mezzanine space overlooking it. Access from the street to the banking floor will be up escalators or circular stairs through a helically shaped well to the two-story-deep main banking floor. Auxiliary offices of the bank will occupy space above the main banking floor to the eighth floor.

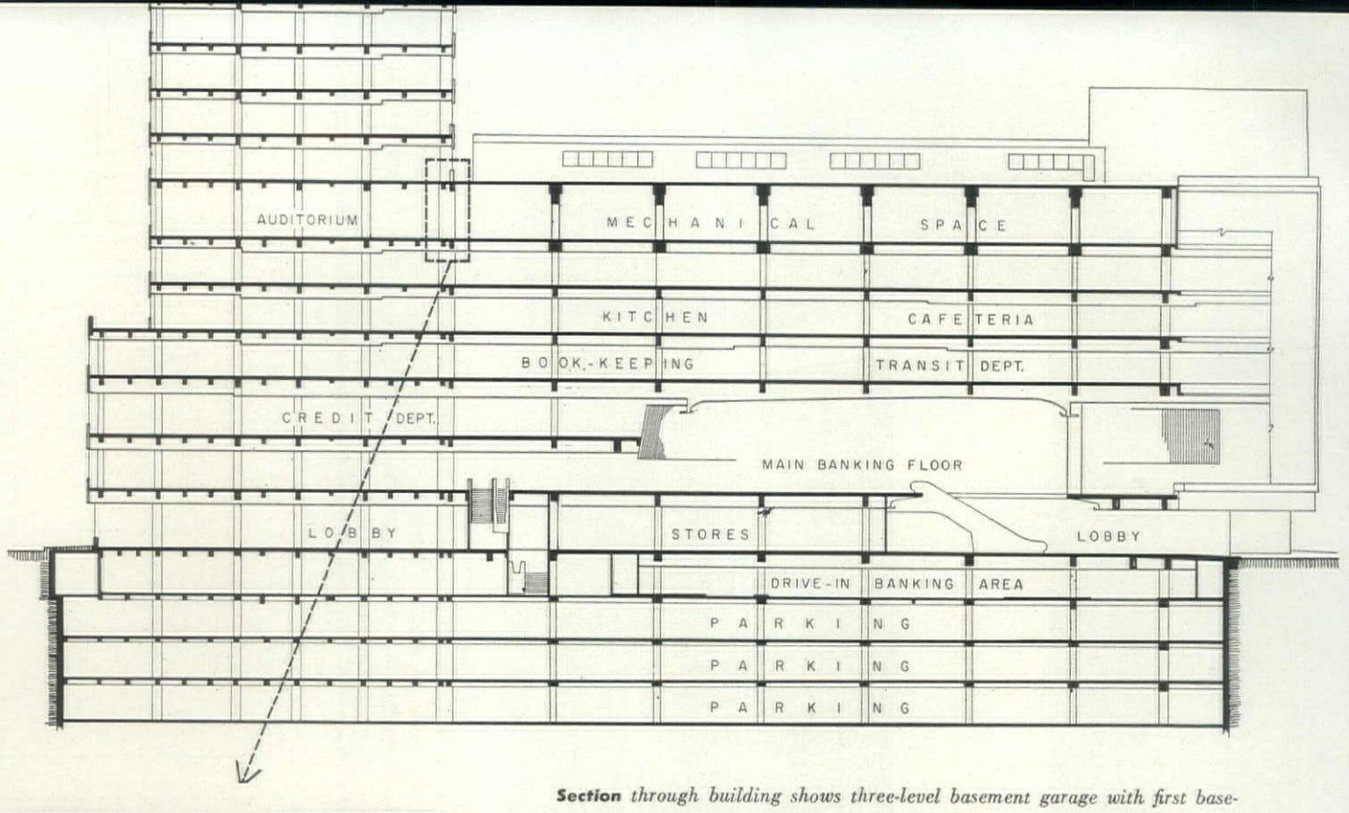
Tower floors, with the service and elevator core in the center of the tower, have excellent small-tenant perimeter space that can be partitioned every 4′-5½″ at the window mullions around three sides of the tower. (The bank, having no need to finance by the long-lease, large-tenant method, wants lots of small tenants who will become customers as well.)

Underground parking is provided in three of the four basement levels, which are connected by ramps; capacity: 330 cars. Access is through an underground tunnel leading from street level beneath an adjacent building to the first basement level. Here, four tellers' windows permit customers to transact business without leaving their cars, then return to the street on the opposite side of the block from the entrance. Those who wish to park drive to the down ramp.

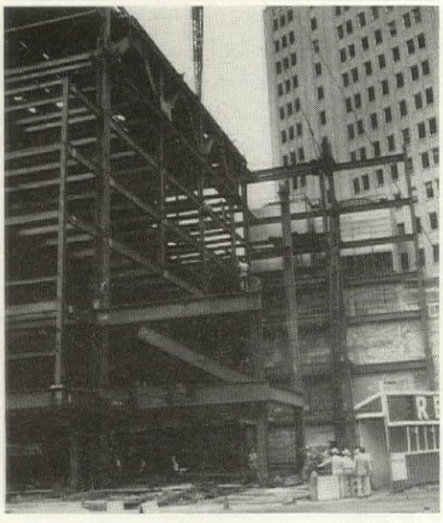


FLOOR PLAN (18 to 24 incl.)



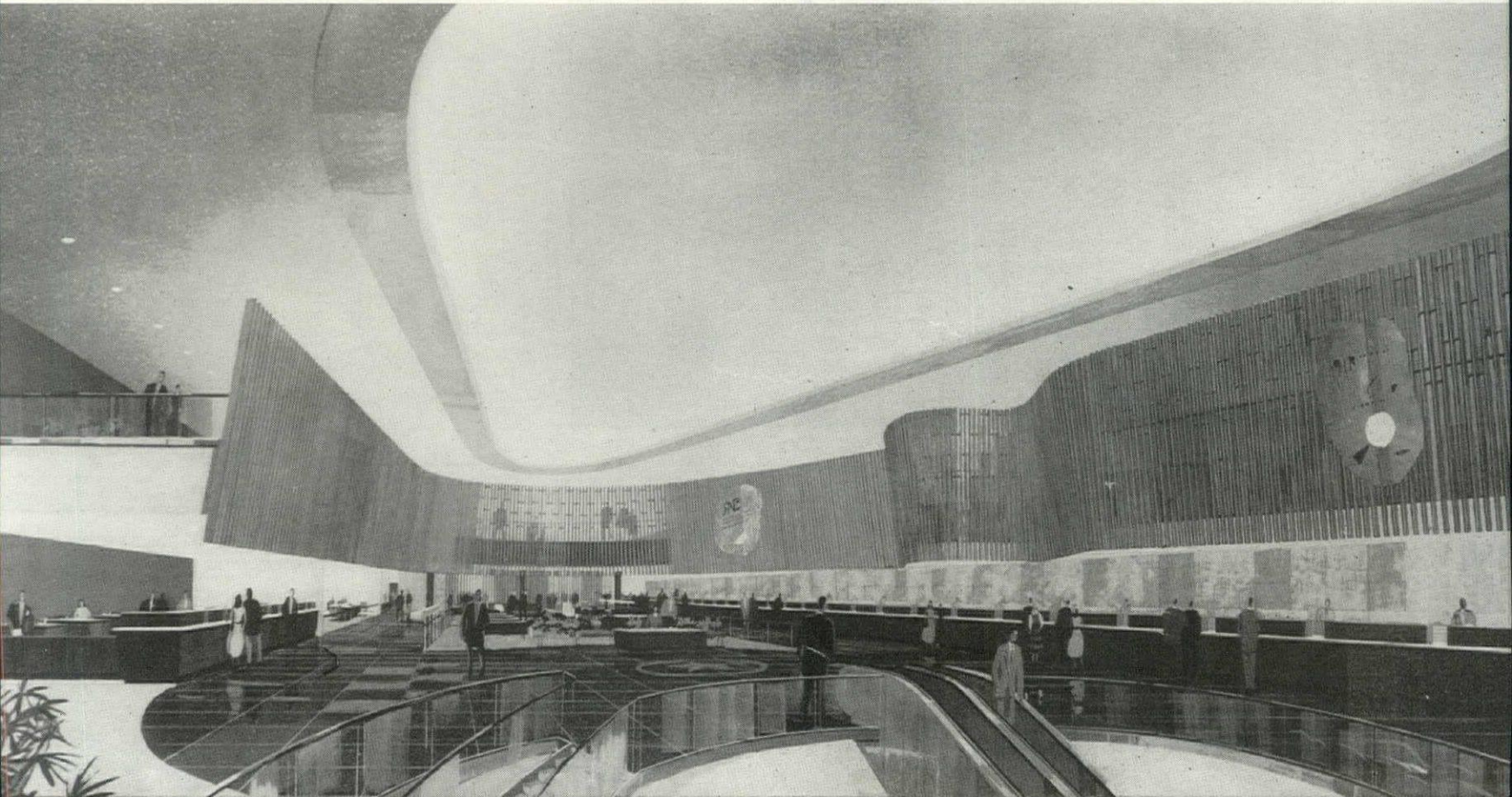


Section *through building shows three-level basement garage with first basement level used for drive-in banking. Note two-story-high main banking floor on second level serviced by escalators from the ground floor.*



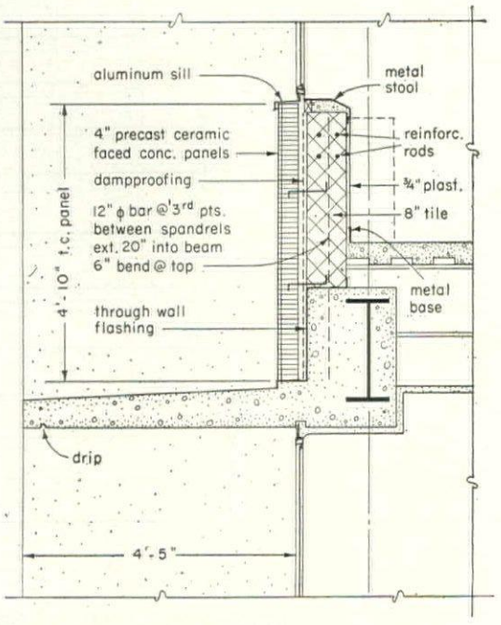
Fifteen-foot-deep trusses *like this one on seventh (mechanical) floor carry floors below them by suspended "columns" so the big banking room underneath can be column free. Truss transfers loads to columns outside the main-floor area.*

Main banking floor *is reached by escalator or circular stair up through helical-shaped well (foreground). Cove lights provide general illumination, wood screen gives privacy to mezzanine that extends around end of room.*

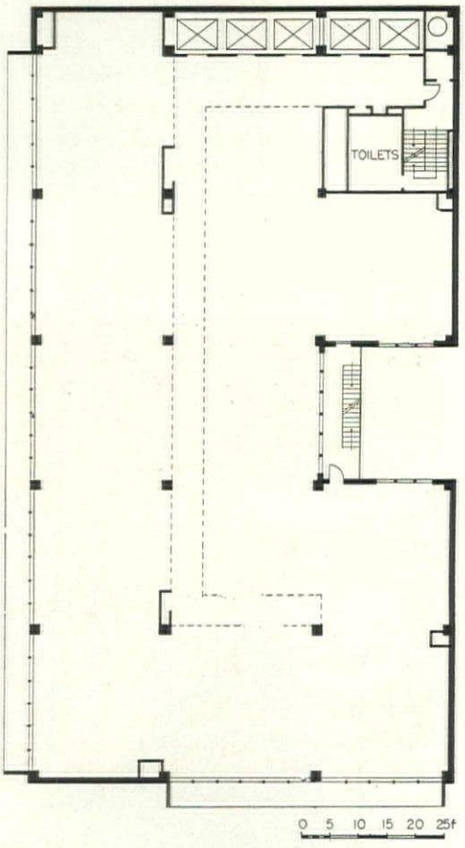




Horizontal sunshades *mark the facades of this modest-size office building in Houston. Sunshades reduce sky glare, cut air-conditioning tonnage requirements, also set building apart from its aged neighbors.*



Concrete eyebrows *extend 4' over 5'-8" windows for sun protection in warm Houston climate. Note spandrel facing of 4" precast panels finished with glazed blue-green ceramic tile.*



Typical floor plan: *elevators are at end of office floor along one windowless wall; services take up nearly all of the second windowless wall. Recess at rear of building admits daylight to center of 76' x 131' floor.*

New thinking on **sunshading and floor planning**

by architects of Houston's newest office building

HERMON LLOYD & W. B. MORGAN, architects
WALTER P. MOORE, structural engineer
HERMANN BLUM, mechanical engineer
TELLEPSEN CONSTRUCTION CO., contractor

This 21-floor office building in Houston uses three simple devices to create a dramatic appearance and pleasant work space:

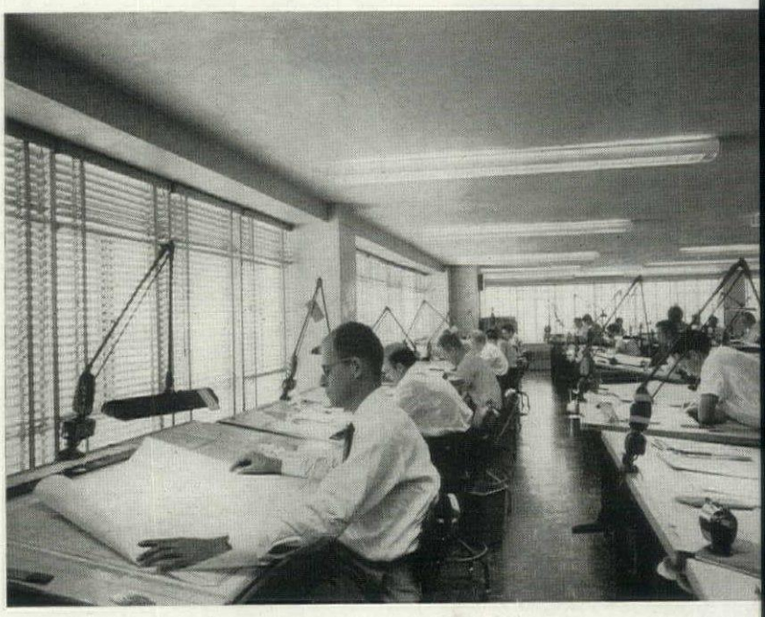
▸ Windowless wall areas on two sides are juxtaposed with horizontal continuous windows on the other two sides. Where Lever House uses glass for dramatic transparency, the Melrose Building uses brick for dramatic opacity, which is further emphasized by the strip window walls. This device enabled the architects 1) to place elevators along one windowless wall, service areas along the other to gain rentable floor area; and 2) cut air-conditioning requirements from 800 to 667 tons.

▸ Sunshades make the window walls more effective. They extend 4′ from exterior walls, above 5′-8″ windows, to cut sky glare and further reduce air-conditioning tonnage. (The architects claim the cost of the sunshades was more than offset by the reduced air-conditioning tonnage requirements.)

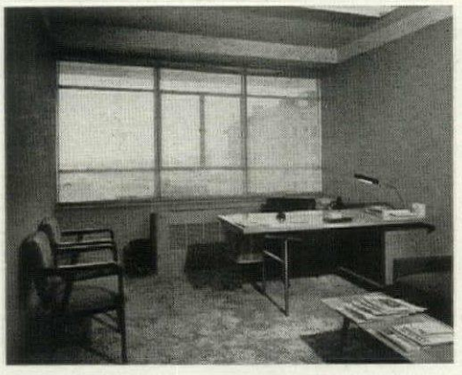
▸ Blue-green tile was used as a facing material on precast concrete spandrel covers. Rather than use obscure glass, which is regarded by some architects as a misuse of the material, these architects got color on the building face, plus a somewhat reflective surface—and at the same time maintained the opacity they sought.

The simple loft interior of the modestly sized (131′ x 76′) tower can be rented as bulk space with only five columns interrupting the floor area. Partitioning within the window module along two sides of the building creates perimeter executive office space with a corridor along the row of interior columns (see plan).

Total cost of the 220,687 sq. ft. building including fees and tenant partitioning was $3,160,000, or $14.31 per sq. ft.

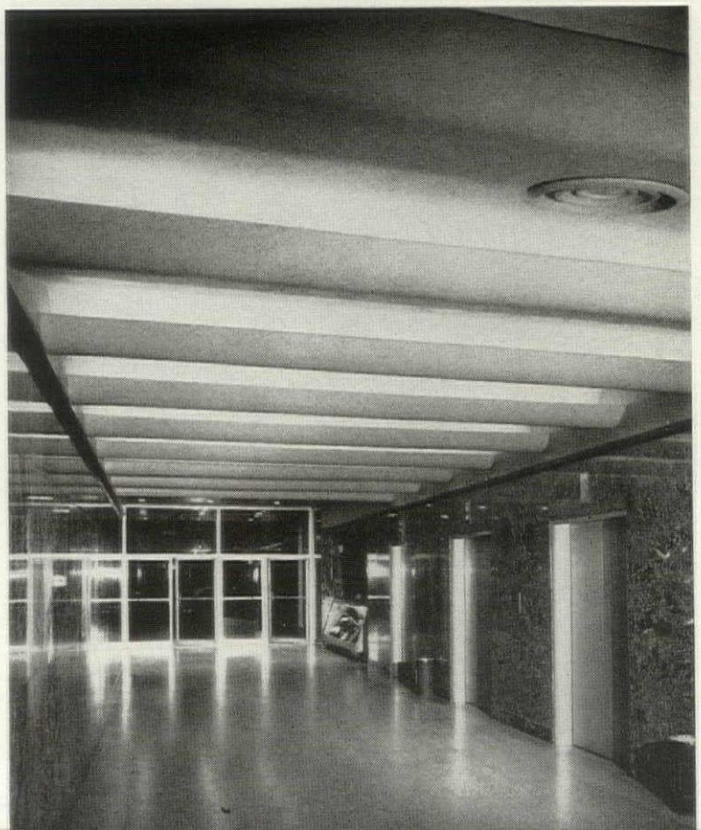


Open office areas *are relatively free of columns, thanks to wide column spacing. Except for 27′ wide central bay, all bays are 24′ square.*



Small offices *can be created by partitioning anywhere within the 3′-9¾″ window module along continuous window walls.*

Photos: F. Wilbur Seiders



Lobby *is durably finished with marble walls, terrazzo flooring. Ceiling consists of a series of transverse cove lights.*



Photos: Lionel Freedman

Pocket-size Rockefeller Center *for Denver consists of three buildings. At left is remodeled bank which will command corner rental because of open ground-floor planning of office tower. At right is clear-span airplane ticket office level with upper street. Beneath it are restaurant and bar on level with lower plaza.*

New thinking on **fenestration and ground-floor use**

by developer of Denver's new office center dramatizes curtain wall, maximizes rents

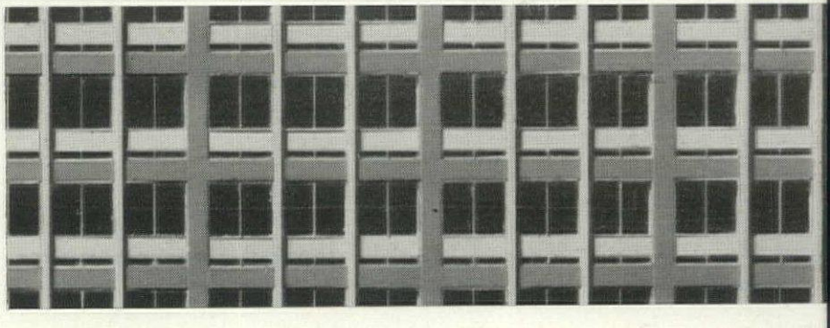
In planning this "Mile High Center" for Denver, Tycoon Bill Zeckendorf and Architect Ieoh Ming Pei have pooled their very different talents to develop some interesting solutions to these problems:

- how to get more rent by doing less building on the street level,
- how to dramatize a curtain wall, and
- how to compromise the great argument over whether air conditioning makes it profitable to build deep office space.

Mile High Center occupies a prime two-acre site, with three street frontages, right across Broadway from the Brown Palace Hotel. The project suggests comparison with Lever House but its 266′ x 301′ site is enough bigger than Lever's 155′ x 200′ to let Zeckendorf cash in on the values his open areas added to the adjoining buildings. And Denver has no cake-mold zoning ordinance to restrict the tower area, so the floors can be 127′ x 152′ (vs. Lever's 53′ x 155′).

Around its new 23-story tower, Mile High Center will group a low remodeled bank building and a new two-story structure that will take advantage of the sloping site to put the restaurant below and the clear-span downtown airline terminal above both on grade.

WEBB & KNAPP, INC., Architectural Div., I. M. PEI, director, architect
KAHN & JACOBS, G. MEREDITH MUSICK, associated architects
JAROS, BAUM & BOLLES; SEVERUD-ELSTAD-KRUEGER, consulting engineers
GEORGE A. FULLER CO., contractor



In this new facade treatment, gray is for structure and off-white is for cooling

Here is an all-glass curtain wall interrupted only by:

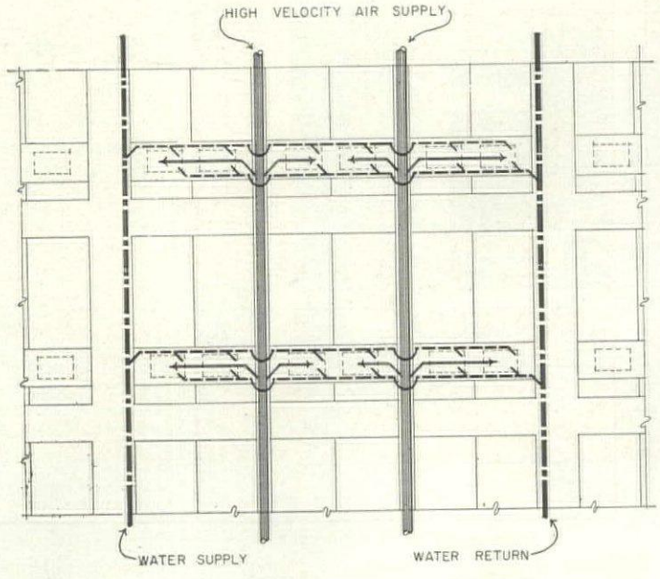
1. the dark-gray cast-aluminum cover plates, which truly express the structure of column and spandrel beam, and

2. the off-white porcelain enamel grid, which expresses the perimeter heating and cooling system—24″ deep horizontals to cover the window units, 10″ wide verticals to cover the air risers.

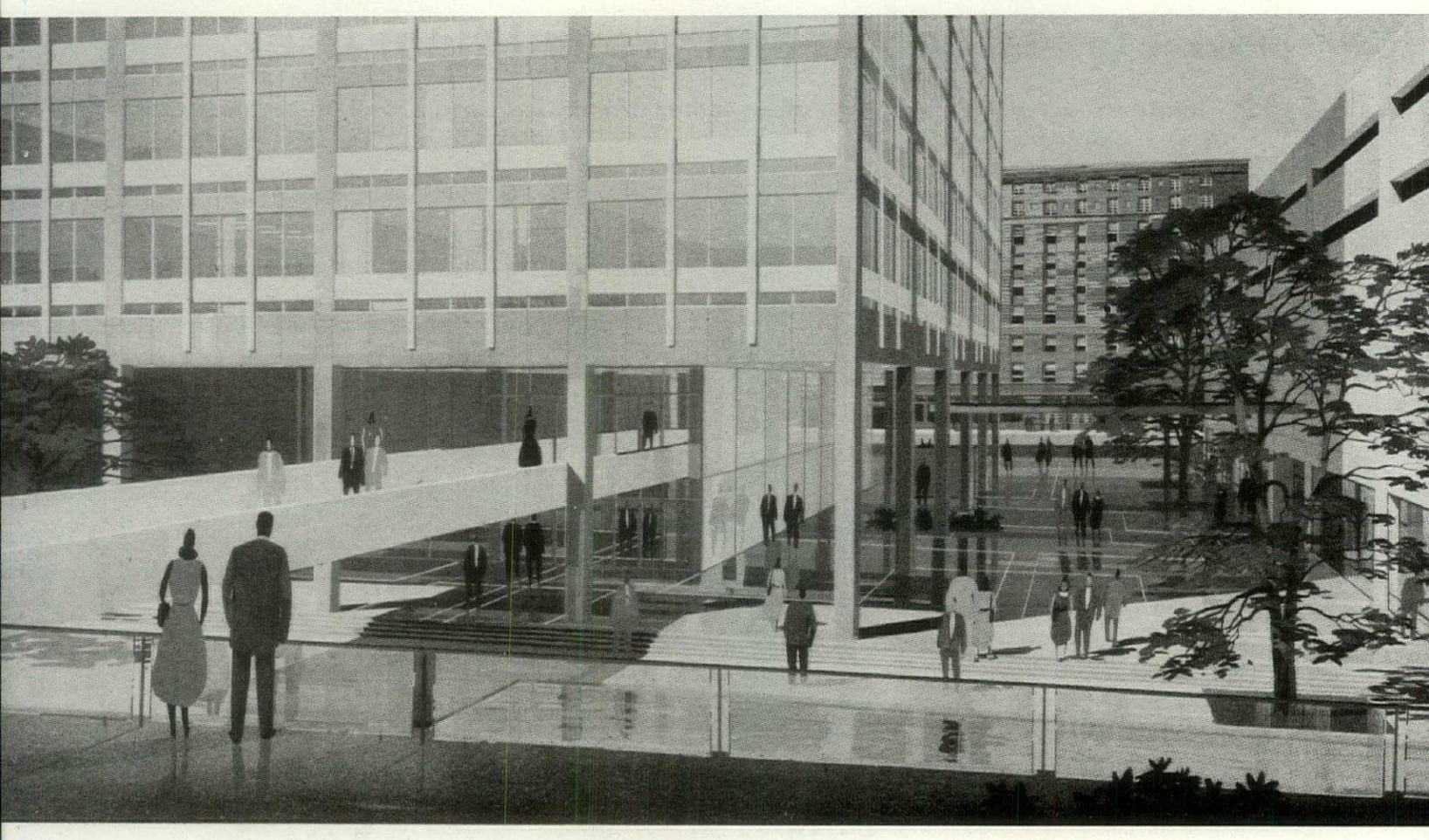
This is the first time any office-building wall has so precisely expressed the structure. It is the first good expression of a cooling system in the wall. One interesting result: a 12″ ribbon of glass between floor and window unit will show all around the building. This will be most effective at night, when even the all-glass fronts of Lever House and the UN Secretariat are divided into alternate bands of light and dark for every floor.

All the windows are fixed and will be washed from a traveling platform running up and down on shallow tracks recessed into the aluminum column covers. The mechanism, first used for this purpose on Frank Lloyd Wright's Johnson Wax Tower, will cost only $8,000. It is nothing more than two spider cages connected with a truss, and it is lowered to the ground for easy movement from bay to bay while workers atop the building shift the cables.

Each broad band below the first-floor windows and above the top-floor windows covers a windowless mechanical floor.

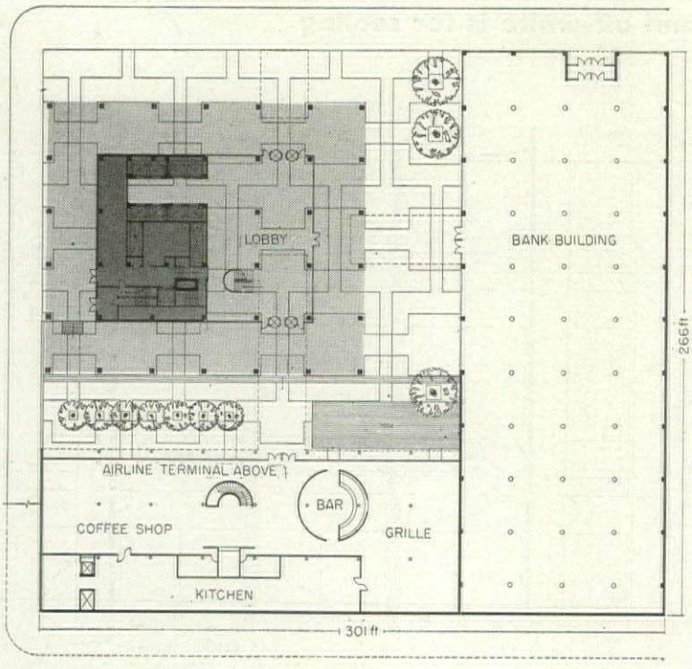


***Heating and cooling risers** for peripheral air-conditioning system are contained in exterior columns and mullions. Interior space is air-conditioned from central utility core.*



Plaza, *viewed from airline ticket office in early promotional rendering, extends under office tower*

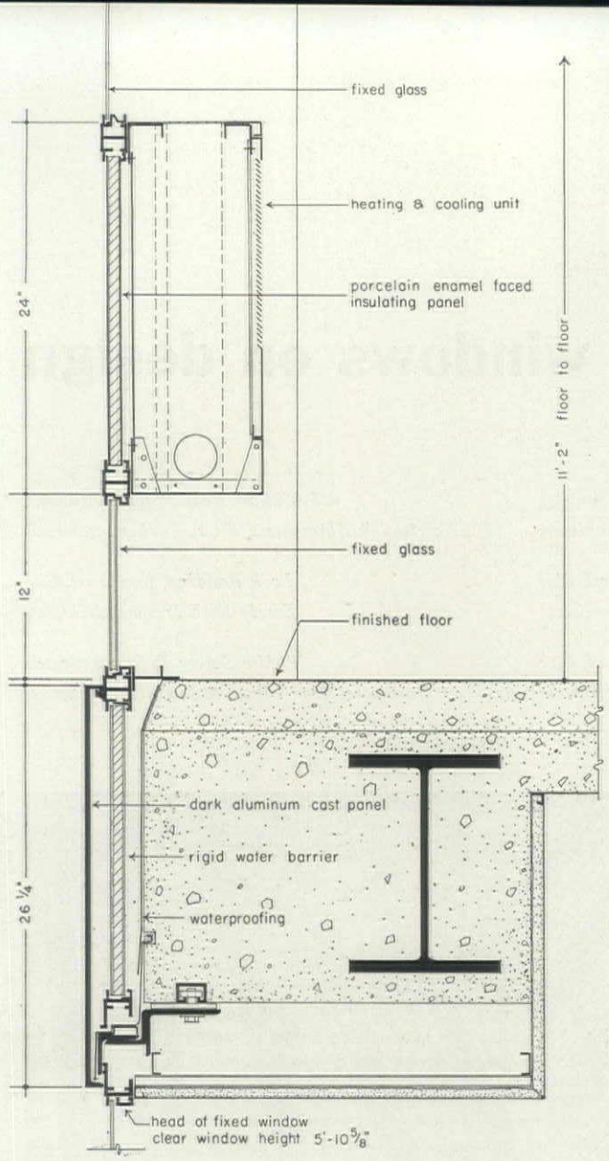
All this ground-floor openness spells more rent, not less, for these six reasons:



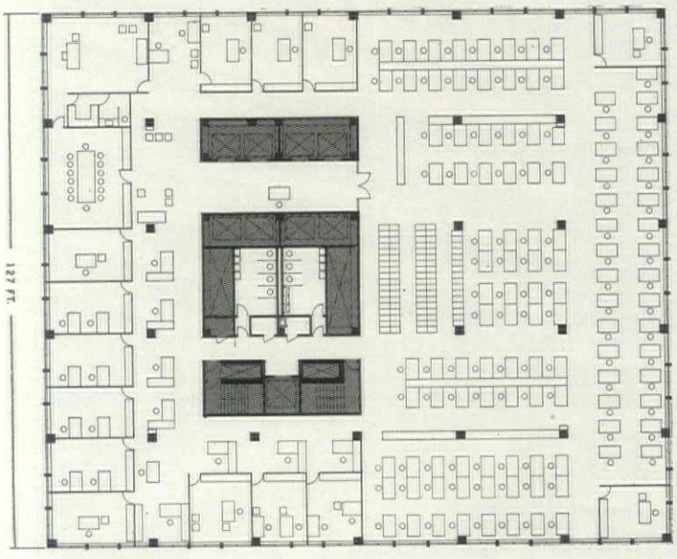
***Site plan** shows how inside of block is opened up to create desirable rentable space facing plaza and open ground floor of office building. Broadway is at top of plan.*

- The open area will earn a handsome corner rent for the remodeled bank in the middle of the block.
- The open area will put the restaurant below the air terminal on grade at a more profitable rent.
- A store to fill in the open space would bring less than the $5 per sq. ft. rent budgeted for the office floors. (In Los Angeles the General Petroleum Building has converted its ground floor from stores to offices. In many cities there are now so many store vacancies that the old rule that ground-floor income should cover the ground rent no longer holds.)
- The drugstore operation, which offered $7.50 for the corner, would hardly have raised the tone of the center.
- A difference of 10¢ per sq. ft. in the rent for the office floors will more than cover any profit that could be made on stores.
- Stores would have required changing the plan of all the office floors to get the elevators back from the street.

In this way Zeckendorf's uncanny real estate sense helped the architect create a far better center without any sacrifice of profit.



Wall section *shows how 9' high window wall is divided into three parts by 2' high heating and cooling unit. Upper window is almost 6' high; lower window is 1' high. Note that 2'-2¼" spandrel is faced with cast-aluminum panel.*



Zeckendorf's compromise on deep space: *25'-38' to the window for executive office space on three sides of the service core—75' for open office space on the fourth side.*



Lionel Freedman

New thinking on

the effect of office windows on design

99 Park Ave., New York City
Emery Roth & Sons, architects

UN Secretariat New York City
Wallace K. Harrison, director of planning

General Petroleum Building, Los Angeles
Wurdeman & Becket, architects

Prudential Building, Los Angeles
Wurdeman & Becket, architects

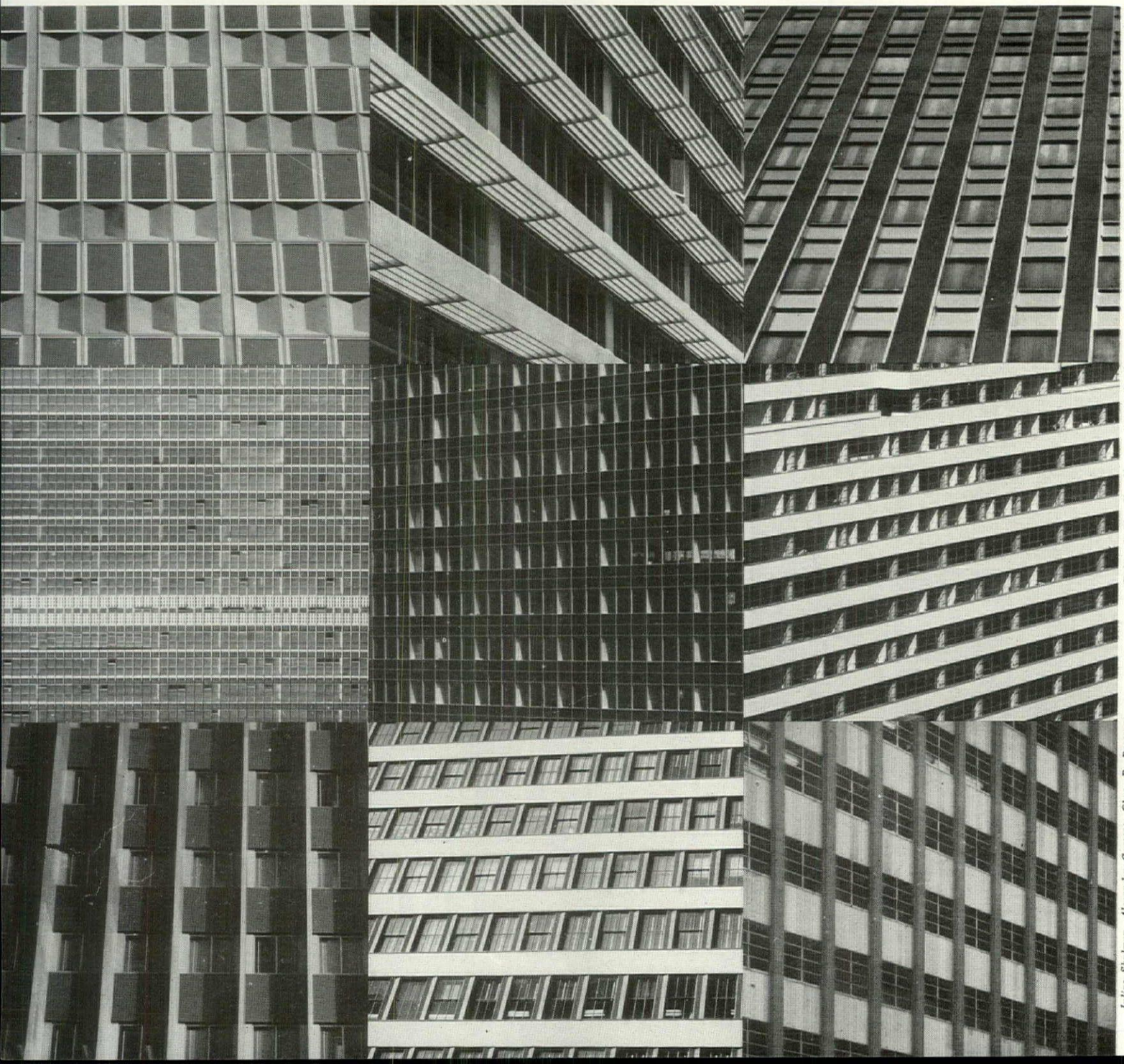
Lever House, New York City
Skidmore, Owings & Merrill, architects

1407 Broadway, New York City
Kahn & Jacobs, architects

525 William Penn Place, Pittsburgh
Harrison & Abramovitz, W. Y. Cocken, architects

Look Building, New York City
Emery Roth & Sons, architects

Public Safety Building, Seattle
Naramore, Brady, Bain & Johanson, architects



Ben Schnall, Julius Shulman, Ben Schnall

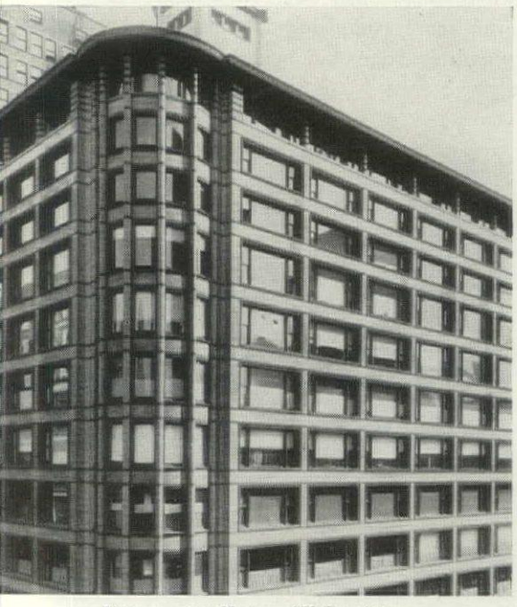
© Ezra Stoller, Don Morgan, Adolph Studly

Julius Shulman, Alexandre Georges, Chas. R. Pearson

— the curtain wall from Louis Sullivan to Robert Moses

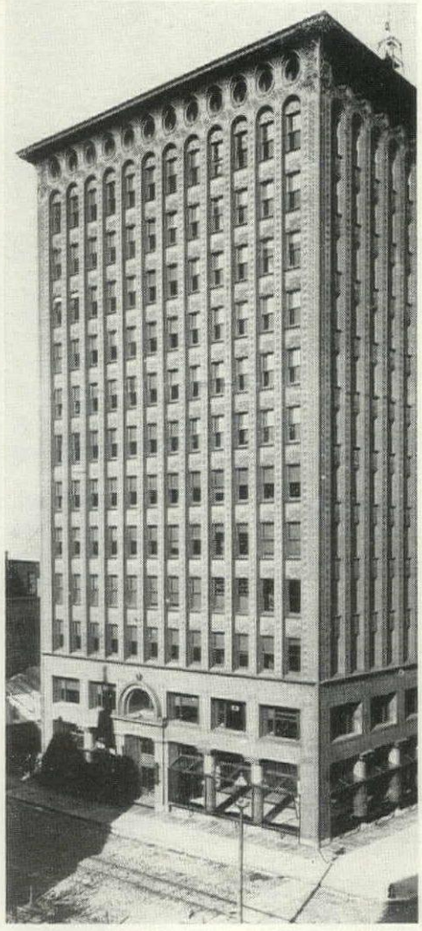
It is a sure thing there will soon be many functional changes in office-building windows, but the present investigation deals entirely with today's design. Whether the "more glass" people will multiply floors 25 stories above the ground where you can look down at the city between your toes, or whether the "less glass" people will convince clients that they should cut down on vertigo as well as on air-conditioning loads, curtain wall *design* will nevertheless go on from where it is today.

Today's typical window is the ribbon window, which Louis Sullivan did not foresee. He had two classical treatments —for horizontal buildings the Carson-Pirie-Scott cage like this:



Photos: courtesy Museum of Modern Art

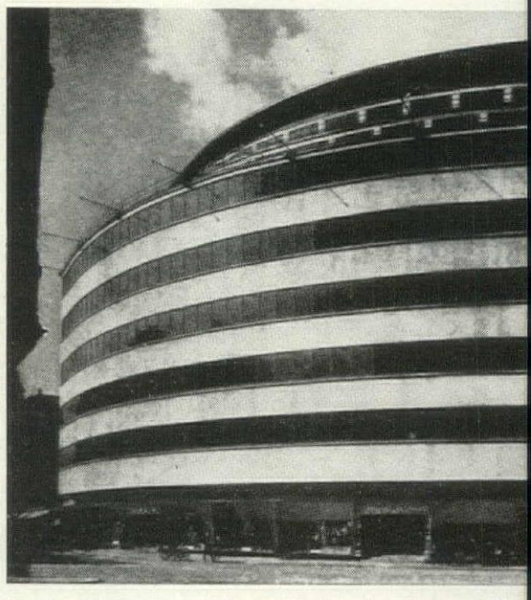
—for vertical buildings the Prudential treatment like this:



Both of these make the wall elements between windows look structural—they have body to them.

But today's evolution has caused the curtain wall to lose its "body"—it looks more and more wholly like a screen.

The ribbon window begins it. The late Eric Mendelsohn did the most striking ones when he borrowed tricks from factories, cantilevered the outer "wall" beyond the columns, supported his spandrels and windows on a light metal framework, created a "weightless"-looking horizontal rhythm strong enough to be singled out by Critic Talbot Hamlin for special mention in *Forms & Functions:*



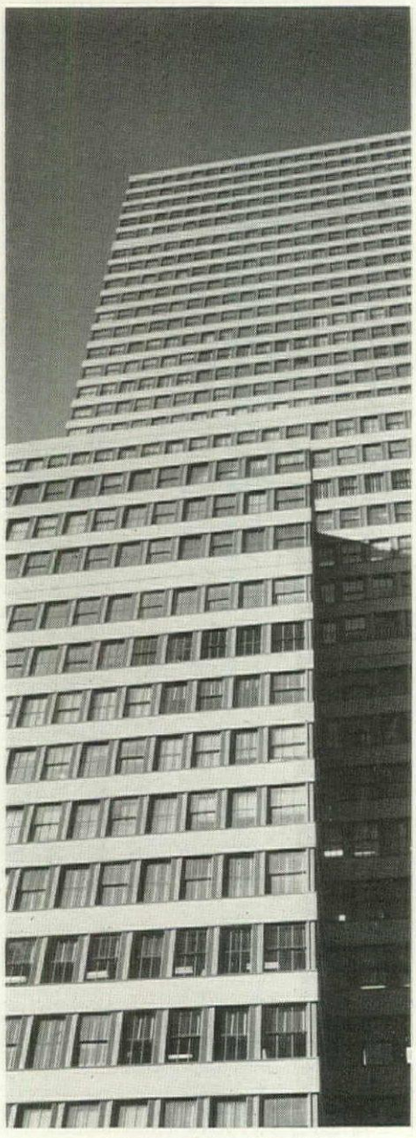
. . . color + pattern + texture + panel = the bodiless curtain wall

First major American version was Kahn & Jacobs' Tishman Building (now the Universal Pictures Building). (The appeal of the idea lay in the chance it gave for modular partitioning and for avoiding dark pockets next to individual windows.) In New York two factors produced a change: 1) fatter mullions were demanded for technical reasons; 2) the height of the building completely changed the effect. It went counter to Sullivan's principle of horizontal lines for low buildings, vertical lines for tall ones:



Opinion was divided. Some admired the building very much. Others felt the horizontal spandrel bands look unstable, like a high stack of dishes or an overgrown Napoleon cake.

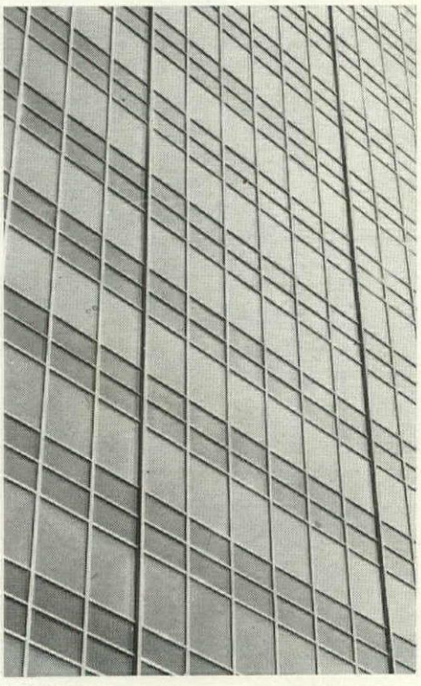
Next, color. Weathering has now almost eliminated the glaring contrast between Tishman's white spandrel ribbons and black window ribbons. But Kahn & Jacobs meanwhile hit on another expedient to reduce contrast: color. From Hood's McGraw-Hill Building they borrowed the idea of a green facing for their 1407 Broadway building:



(Color on porcelain-enamel panels could be used in "advancing" or "receding" lines to make whole segments of a building appear to advance or recede, but this has not yet been tried.)

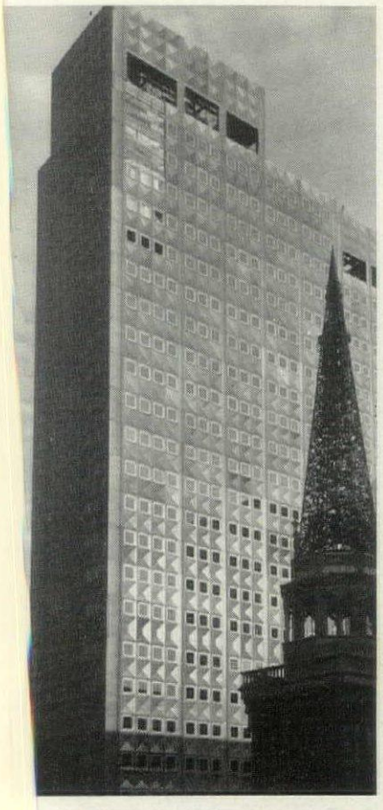
Pattern joined color, almost unconsciously or accidentally. By a paradox, just because the Broadway building was still higher than the Tishman, the horizontal lines were less unsupported-looking—there were so many more of them that they were reduced to a mere element in a pattern. The wall now looked insubstantial, all pattern, all color, all "curtain."

Completely bodiless wall pattern meanwhile reached its apogee in Harrison & Abramovitz' UN Secretariat and Skidmore, Owings & Merrill's Lever House, where the ribbon effect was destroyed even more completely by making the spandrels, like the windows, out of glass:



By now the office-building curtain wall was not only all pattern and color but all mirror too—at least by day; the ribbon effect reappeared only at night through the lights. By throwing light into the spandrels as well as the windows, Pei has now kept the bodiless "curtain" effect even at night (see p. 114).

Texture joined color and pattern most conspicuously in Harrison & Abramovitz' Alcoa Building in Pittsburgh, where the spandrels, instead of being glass-smooth, were given a reverse-diamond shadow texture. When the system was imitated on Park Ave., Architects Emery Roth & Sons further suppressed the verticals. The two systems:

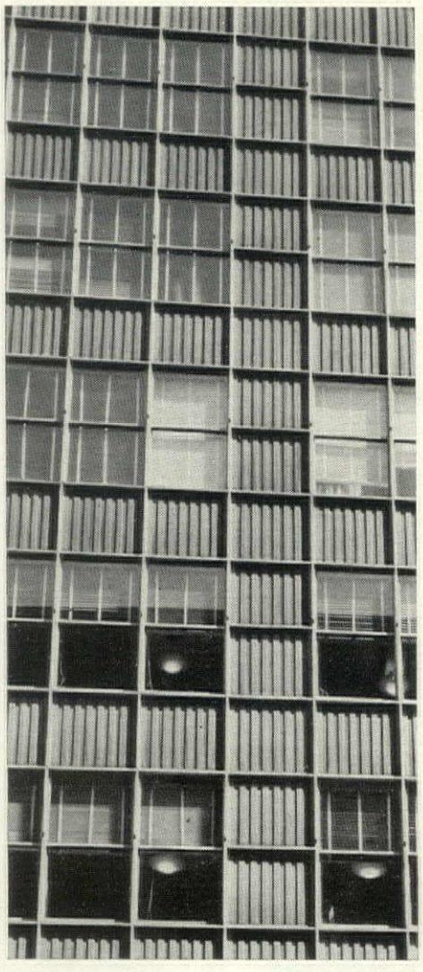


Photos: Alexandre Georges, Ben Schnall, Jack Holmes, Robert O. Harvey Studio

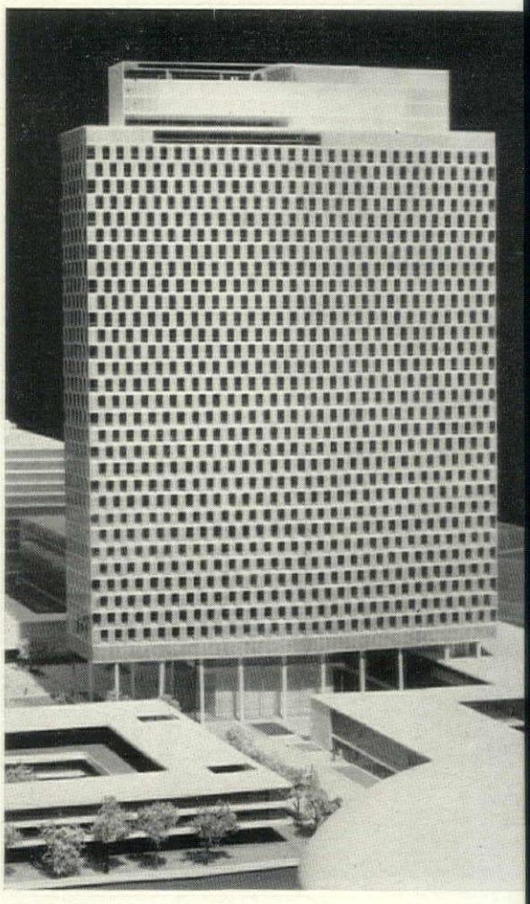


Panelization joined texture, color, pattern in all three of these buildings: UN, Lever, Alcoa. Where the ribbon spandrel of the Tishman Building and 1407 Broadway still had a faint "structural" echo, all three of the new pace setters were completely divided into panels head to toe; all "structural" reference was gone.

So complete was the divorce by now of the curtain-wall appearance from any structural appearance that Architect Sylvan Bien could even drop the cantilever, put his windows back between the columns again, and *still* make the wall look like a bodiless, weightless curtain (except at the corners) like this:



And the concept of a bodiless curtain, all panel, all texture, all color, all pattern was even carried back into that oldest of all office-building enclosures, the continuous wall with individual windows punched out of it. A group of eminent Harvard and MIT teachers* placed their windows *diagonally* in the wall, thus dynamiting the effect of a structural grid, producing the effect of a giant vegetable grater:



This was for the Boston Back Bay Center, promoted by Roger L. Stevens (see News, p. 43).

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* *Belluschi, Bogner, Gropius and his colleagues of TAC, Koch, Stubbins (with Kenneth Welch as economics consultant).*

. . . and the effect of the curtain wall on the street

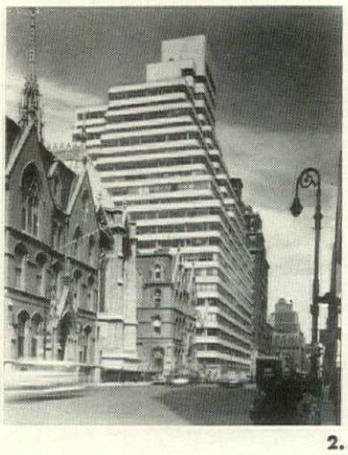
Walking down Park or Madison Ave. in New York today the visitor is treated to an assortment of brand-new office-building fronts — UN fronts, Lever fronts, Uris fronts, and the whole new Alcoa front transplanted virtually intact.

The more assorted they are the more alike they are—what FORUM's late publisher, Howard Myers, used to call "the same old new stuff." They are alike because each is curtained in one simple unalterable pattern, alike because the pattern is always flat and thin and hides any sign of bones. Between a bright original and its hasty copy the eye is grateful no end for a few older buildings, with some modeling to them, and shadow relief, and some evidence of a body:



1.

The setback rule in New York makes all but a few of the best new curtain walls a cause for eye sadness. Once the window & spandrel pattern is set it cannot be diminished in scale to fit the smaller rectangles above the setback line, nor has the cardboard curtain cutter of today any chance to soften the transitions from base to crown with sculptural modeling:



2.



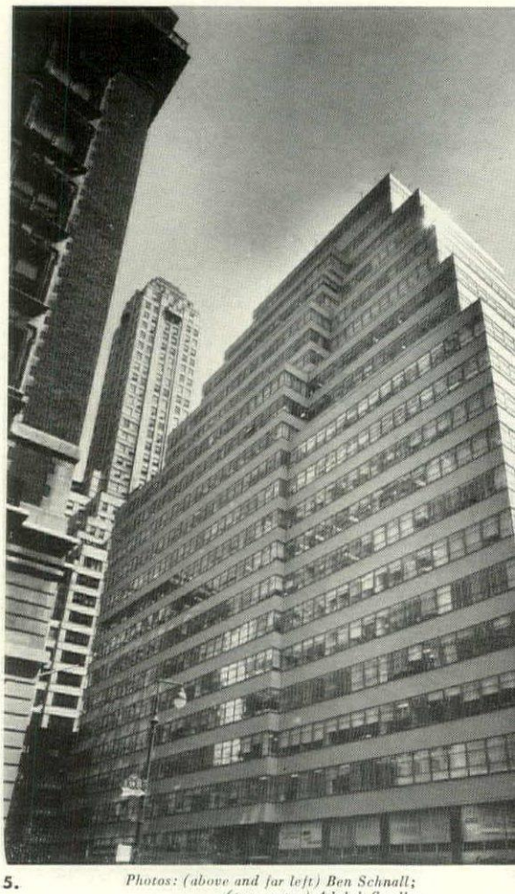
3.

4.



So the ribbon treatment is apt to end like a precarious stack of trays and the panel treatment can end like the work of a crazy paper hanger set loose on the packing boxes in a warehouse.

A much larger scale goes with the new curtain-wall buildings, so one or two big masses to the block replace what was once the lively parade of a dozen smaller units. But the *street* has grown no wider than it was. The result is that the one thin flat pattern goes on for whole blocks at a time and seems ready to fall on the observer because the buildings look so crowded on the old narrow street:



5. *Photos: (above and far left) Ben Schnall; (top center) Adolph Studly*

1. *420 Park Ave. remodeling (under construction), Emery Roth & Sons, architects—Lever House is tall building at extreme left. (See News, p. 39.)*
2. *Look Building, Emery Roth & Sons, architects.*
3. *655 Madison Ave., Sylvan Bien, architect.*
4. *261 Madison Ave., Sylvan Bien, architect.*
5. *575 Madison Ave., Emery Roth & Sons, architects*

— it is getting duller every day

What can be done?

1. Release the new curtain-wall buildings from the cake-mold setback rule, invented 40 years ago, when New York was dreaming about Babylonian ziggurats, and when stonecutters and terra-cotta modelers could sometimes achieve a roughly passable equivalent. Suitable zoning revisions were framed at great labor by Harrison, Ballard & Allen four long years ago (AF, Sept. '50). The one man who could do the most the fastest to get them adopted is Commissioner Robert Moses. They would permit curtain-wall buildings to be designed without prescribed setbacks, simple coherent shapes—genuine architectural design.

2. Put adequate space around the new large office building. Here is a simple test: all the New York buildings you are likely to *remember* are the ones that stand far enough apart to be seen as complete, separate shapes: the Woolworth, Daily News, McGraw-Hill, UN, Lever House and above all the Rockefeller Center buildings.

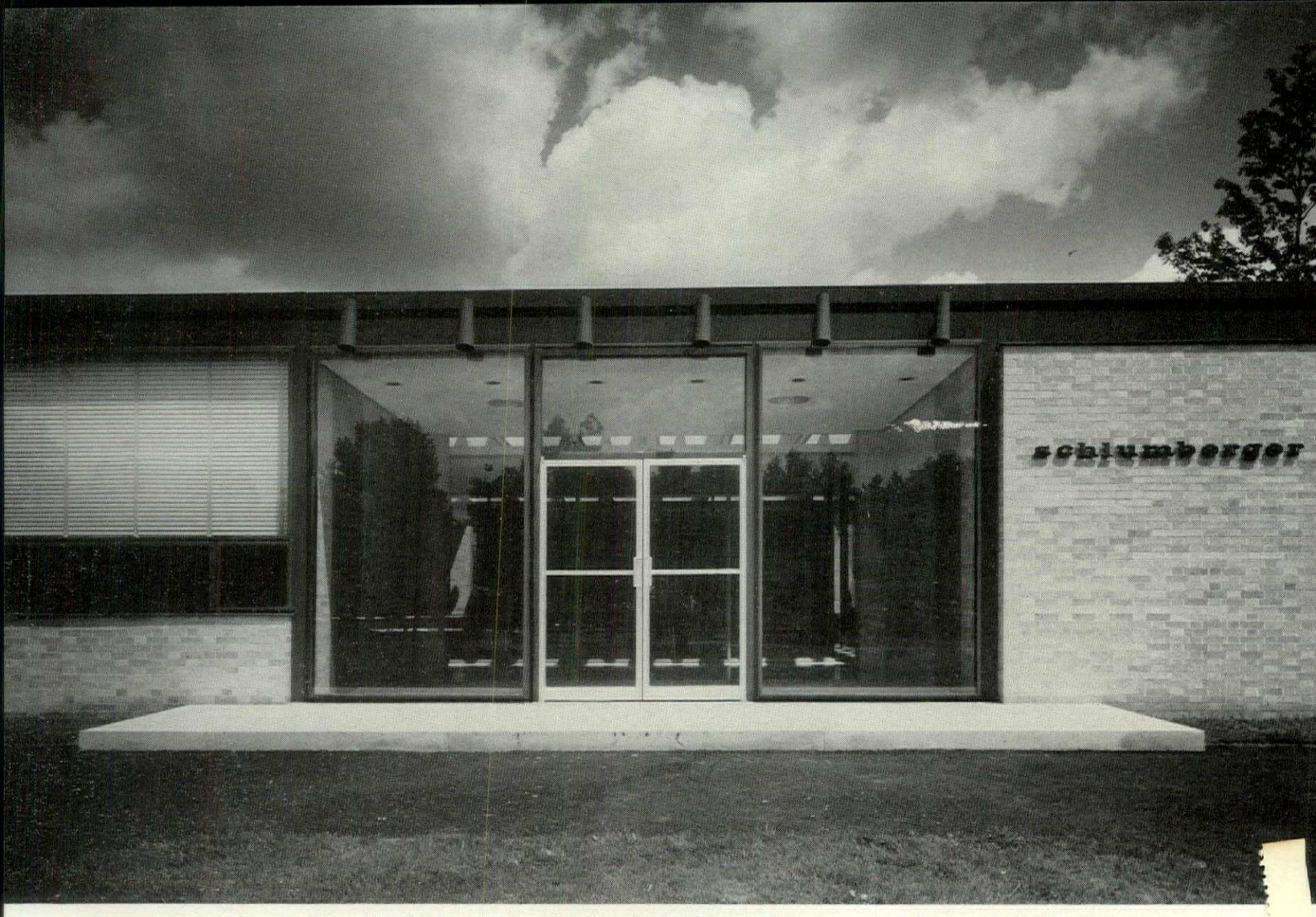
3. Achieving this effective design in modern cities can rarely be done on a scale smaller than the superblock, with buildings off the street on the pattern of Rockefeller Center. Since the Center was built, 20 long years ago, there has been steady retrogression, not progress, in the major aspects of New York's building habits, and so too in the habits of every major US city. Only the superblock can today put enough plazas, trees, air between buildings so even the simplest boxes gain character and relief against the endlessly varying scenery of the sky. And,

4. Listen to Frank Lloyd Wright; try a few buildings that put life into something else than the simple curtained box. . . .

The pioneers of modern architecture envisioned a "crystal city," weightless, bodiless, glittering and endlessly reflective. But it was to reflect the clouds and trees into which the crystal city was to be set. It was all to be clean and free of grime. This setting, this reflected life, was to replace in interest the old-fashioned ideal of sculptural mass. Lacking space, lacking freedom in setting and design, the crystal building becomes merely a curtained box.

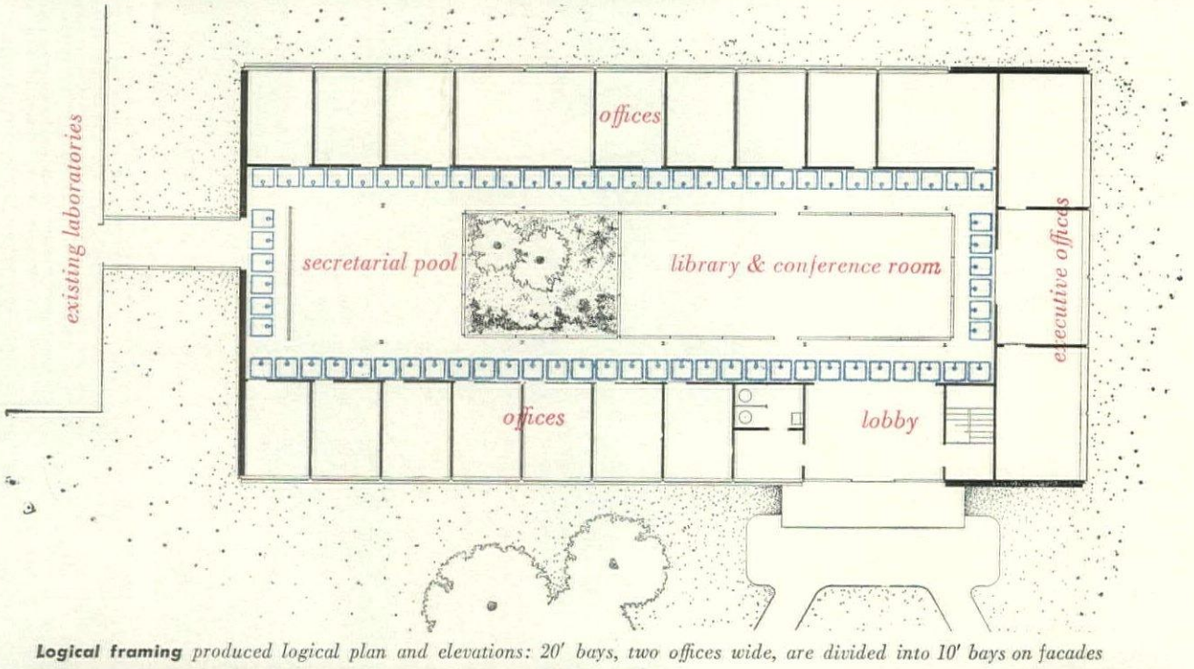


Thomas Airviews



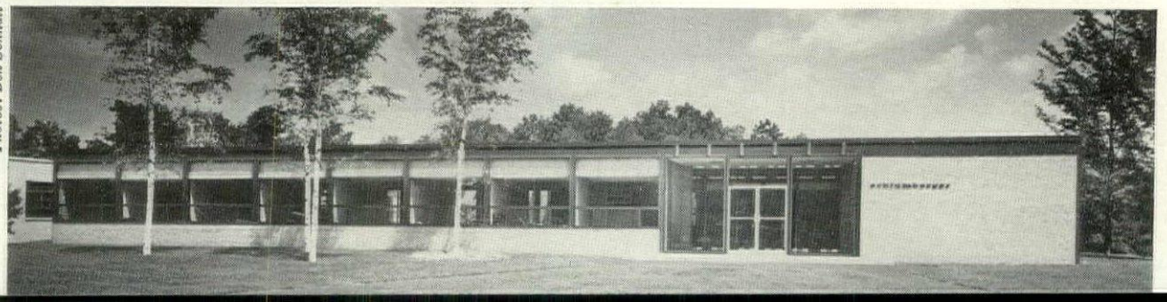
Formal entrance *takes up entire width of standard 20′ bay. Fixed portions of aluminum frames are painted black to blend with steel*

This small suburban administration building



Logical framing *produced logical plan and elevations: 20′ bays, two offices wide, are divided into 10′ bays on facades*

Photos: Ben Schnall





Robert Damora

***Library and patio** are glass-enclosed. Result: a surprisingly handsome and sunny core where most would expect to find dimly lit services*

is four things to four men:

to the engineer *it is a demonstration of new ideas in radiant cooling and heating*

to the planner *it is further proof of a growing trend toward decentralization*

to the critic *it is an eloquent example of the fine precision of steel-glass-and-brick architecture*

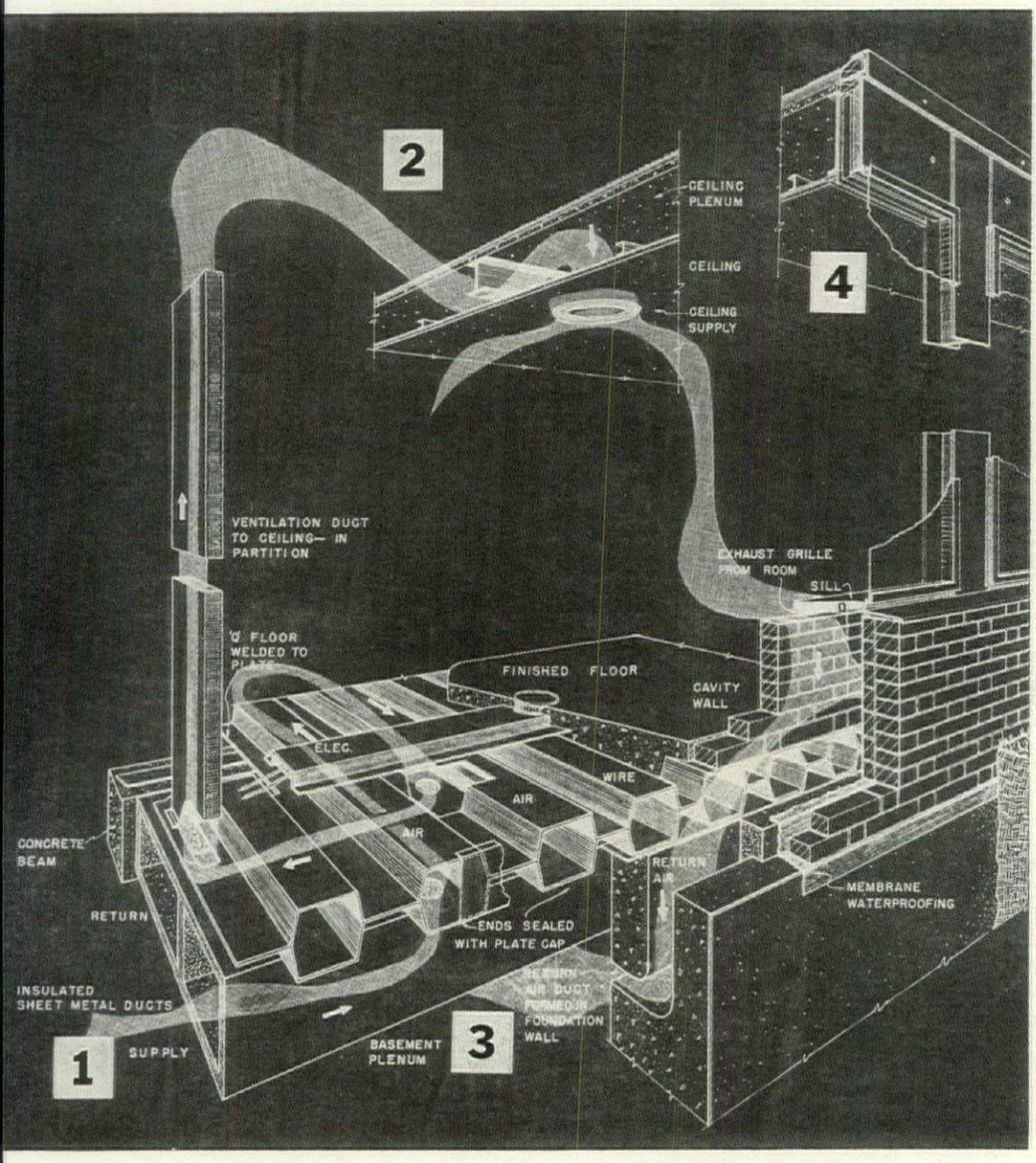
and to the artist *it is a study in contrasts—the magic of light and shade, and the romantic contrasts of the works of nature and of man*

The story on the following pages makes these points in greater detail:

- The radiant cooling-heating system is described on p. 126.
- The planner's interest in this building is easily explained: for here are the research headquarters of a firm making industrial equipment for use throughout the world—and these headquarters have been efficiently located in (of all places) the Connecticut woods, 65 miles from New York City. Reasons: better living and working conditions for the small staff of scientists and patent lawyers, lower taxes, lower land costs, better chances of putting up a building that will work. As more and more corporations argue this way, the impact upon our cities may be sharply felt before long.
- The critic's interest in this latest example of Mies van der Rohe's (and now Philip Johnson's) austere esthetic is justified by the pictures on these pages. It is also justified by the fact that here is a "Miesian" building that tries to solve completely and radically, all the many requirements of a controlled interior climate.
- And, finally, this building's lighting magic (described on p. 127) adds a new dimension to Mies's skin-and-bones architecture—just as the planted patio at the center adds a new warmth to the cool formality for which Philip Johnson's architectural work is best known.

LOCATION: Ridgefield, Conn.
PHILIP C. JOHNSON, architect
EIPEL ENGINEERING CONSULTANTS, structural engineers
RICHARD KELLY, lighting
JAMES FANNING, landscaping
FLORENCE KNOLL, interior designer
JOHN C. SMITH, INC., general contractors

Air-conditioning system uses floor, ceiling and walls



A new kind of air conditioning is used here for the first time in a commercial building. Chief feature of this system is the use of the cellular steel floor to provide radiant heating and cooling. Moreover, by integration of system into the building, major structural changes usually needed for conventional air conditioning are minimized. For instance:

- Much ductwork is eliminated under the slab by channeling supply air through the steel cells. (However, cells must be especially tight to prevent leakage.)
- Space above the hung ceiling is used as a plenum so there is no need for separate ducts to each diffuser. Normally with regular air conditioning the ceiling would have had to be dropped at least another 6″ under the steel beams to accommodate ducts. (And in a building the architectural success of which depends so much on a high, unbroken ceiling and slim roof fascias, dropping the ceiling would have spoiled the whole effect.)
- Use of the wall cavity for return air minimizes special wall design just for air conditioning. In fact, there is virtually no return ductwork because the cavity "ducts" lead to the basement, which serves as a big return-air plenum. (The basement houses all mechanical equipment and is also a garage.)

The substantially reduced ductwork and the structural savings permitted by this radiant heating-cooling system should cut costs about 20% compared with conventional air conditioning. Due to its pioneering nature, this job cost somewhat more.

Although this system has been laboratory-tested (AF, Nov. '51, p. 154) and has worked successfully with a radiant ceiling, this pioneering slab installation has not been in use long enough for a complete report on its operating efficiency.

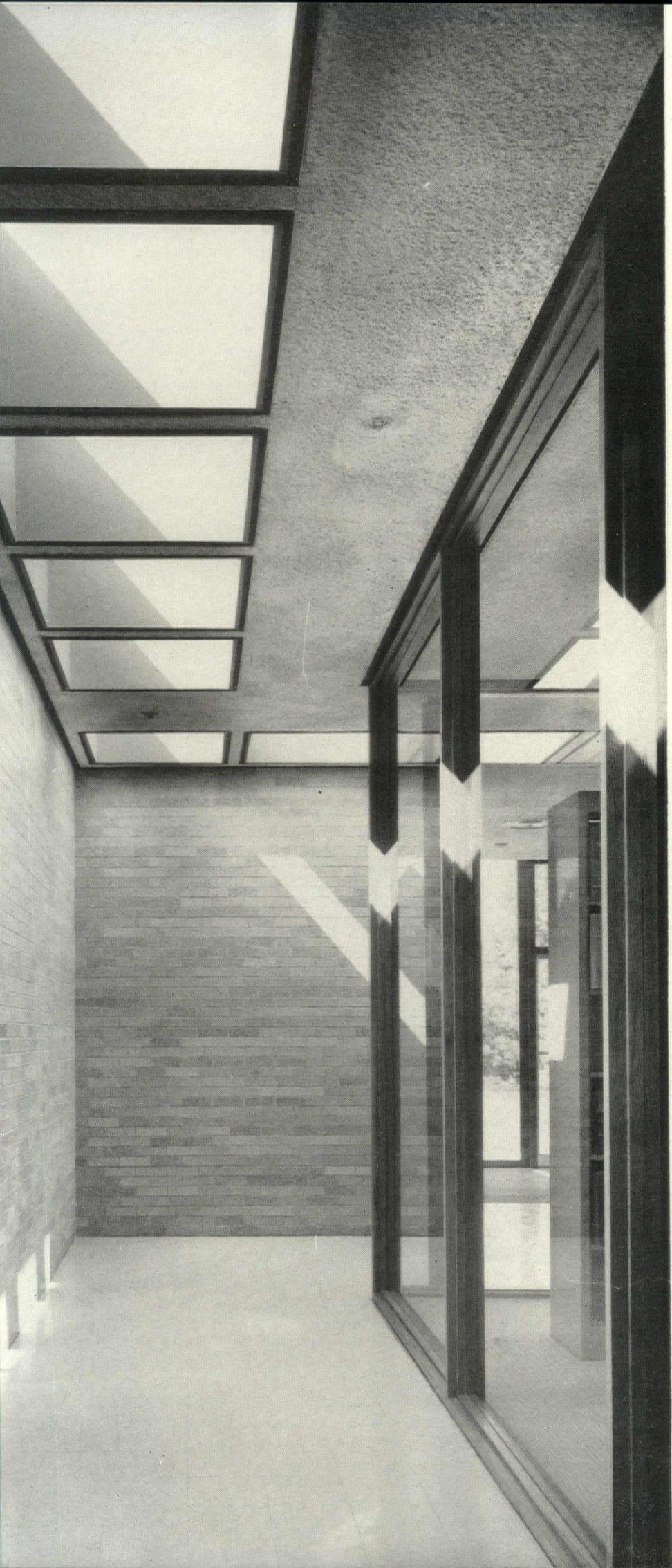
1. Supply air *is fed to two cells in a row. (Alternate pairs are used for wiring and telephone conduits.) For heating, 140°-150° air warms the slab to 88° F. For peak cooling loads, air enters cells at 50°, cools the slab to as low as 56°—4° safely above the room dew point so there is no condensation. (Unlike chilled-water systems for radiant cooling, a 100% air system is usually condensation-proof, for the air is dried out to a dew point* lower *than slab surface temperature. In other words, air temperature and humidity are always one step ahead of the slab temperature.)*

2. Dehumidification and ventilation *needs call for dry air to be released into the rooms after the slab has been heated or cooled. In this case, air from the floor cells is ducted up to the ceiling plenum and then spills into room through diffusers. (Another possibility would be to discharge air from the cells into the room at the window sills.)*

3. Return air *is pulled back to the conditioner through under-the-window grilles. (Thus cold downdrafts from windows are also intercepted before they can chill the room.) Wall cavities are used to carry the air back to the basement.*

4. Structural note: *standard metal sash has been reversed throughout the building and attached to outside edges of steel columns. Johnson did this to get a "glassier" effect on his exteriors, get more reflections of surrounding foliage on his 10′ sheets of plate glass.*

Corridor *is made spacious by use of glass screens around library.* →



Ben Schnall

Lighting is also integrated with precise structure

Architect Johnson and Lighting Engineer Richard Kelly say (with Le Corbusier) that architecture is forms seen in light. Consequently they did not design a lighting *system* for this building, but created the building in connection with the light, and light in connection with the building. Architecture and lighting are here well integrated.

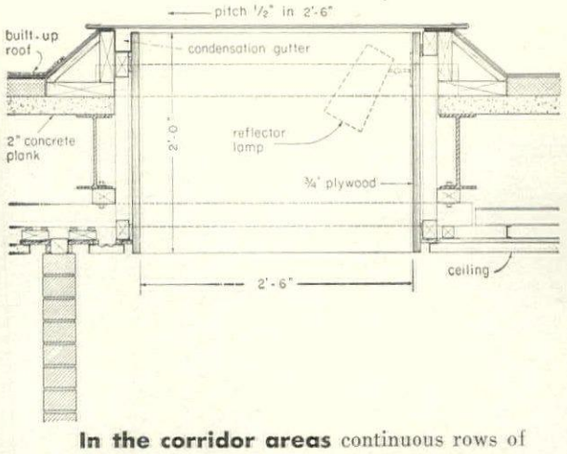
In developing general illumination, Johnson and Kelly have three major objectives in addition to the objective of integration:

1. Lighting must be effortless. It is supposed to create a mood by subtle means—not draw attention to itself.

2. Overhead sources of general illumination are best concealed, since they tend to be distracting and make people seem unimportant.

3. There should be a close relationship between day and night lighting (so as not to change the focus and use of rooms at night). Similarly, there should be a bright cheerfulness indoors, regardless of whether the skies are cloudy or clear.

Here is how these objectives were realized in this office building:



In the corridor areas continuous rows of 2′ deep, 2′-6″ square skylights are lined with plywood painted a light gray (see section). Each skylight has a reflector lamp angled to "wash" light across the gray brick walls along one side of the corridor. Floors are covered with gray vinyl tile.

Here are some of the results:

- The skylight walls are so deep that they cut out sky glare.
- The lighted walls extend the sense of space.
- The ceilings are illuminated by reflection from the light-gray tile floors. This further reduces the glare.
- The "wash" of light, being a combination of natural and artificial light, has a mysterious and beautiful glow that is ever present—rain or shine.
- A major source of light is the glowing wall —i.e., much light comes from eye level rather than overhead, thus keeps people from being dwarfed.
- Finally, on sunny days, there is a beautiful, ever changing pattern of sunlight that travels all over the interior surfaces, gives the

building a cheerful and lively look. *But because of the over-all glow on walls, floors and ceilings, there is little or no glare connected with these spots of sunlight.*

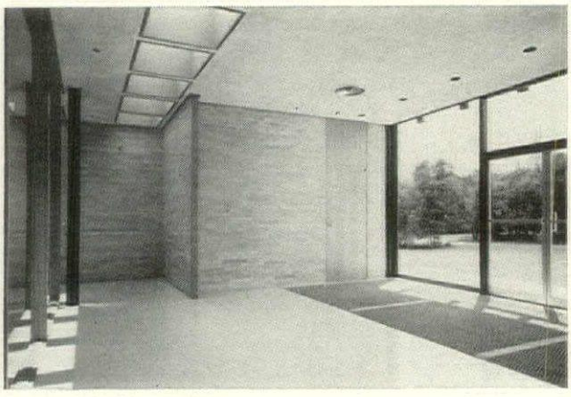
Says Kelly: "We tried to get the effect you would have in a walled garden, roofed over with a canvas tarpaulin that doesn't quite touch the walls. And that is just what we got."

In the offices are hanging egg-crate fixtures of a special design. Since the offices have their own windows, the fixtures are placed off-center toward the window sides so that the light, at desk level, is again a combination of natural and artificial lighting—and relatively constant regardless of the weather.

The fixtures have fluorescent tubes and special-process, extra-bright aluminum reflectors. The reflectors are highly efficient, avoid the striped source patterns present in many fluorescent units (even if you look straight up into these, you cannot distinguish the tubes from the reflectors, and nobody normally goes around looking up at them).

Above the tubes, the reflectors have been slit to permit light otherwise wasted to illuminate the ceiling as well (result: less glare by contrast). Since egg crates are of "natural" aluminum finish (and *not* white) the fixtures do not seem particularly bright even when providing well over 100 foot-candles at desk-top levels.

The moral of the air-conditioning and lighting stories told above is important: to Architect Johnson, environmental control devices are necessary—but they should not be seen, heard or felt. Unlike some extreme devotees of environmental control, Johnson is now sure that you do not have to mutilate your architecture to get living and working comfort. The devices of climate control are tools only, and not ends in themselves; and if you pick the right tools, and the right experts to handle them, there is no reason why you cannot get buildings of fine art.



***Entrance lobby** is separated from library by glass wall at left. General illumination from skylights is supplemented here and elsewhere by recessed spots. Ceilings are acoustic plaster throughout.*

***Typical executive office** has gray magnesium-spot brick walls. Desk by Florence Knoll is large enough to serve as conference table. Note special lighting fixture near window to mingle natural and artificial light.*

***Core of building** (opposite) is ring of passages around central patio, library and secretarial pool. Changing patterns of sunlight on floor and walls are indoor reminders of country setting.*

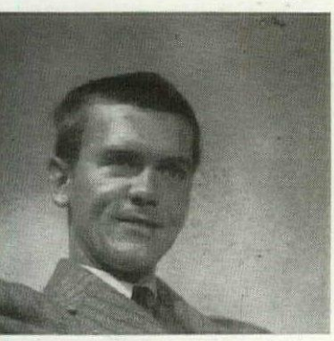
Photos: (below) Robert Damora; (opp. p.) Alexandre Georges





By Robert Woods Kennedy

After the International Style—



Here one of the most quietly provocative writers among the younger architects argues that the International Style is just as untimely as Traditionalism and must be superseded. He describes the effort which has taken place in San Francisco's Bay Area and elsewhere to overcome the academism of both these styles but finds that thus far the countermovement (which the *Architectural Review* of London has called the "New Empiricism") is in turn inadequate. Readers who care to follow a close and scholarly argument will be rewarded by a study of Kennedy's own proposals for a more rounded approach to design.

WHAT HAS GONE BEFORE. Romanticism, says Kennedy, in the discussion preceding this article, has been the main stream of American architecture. In its first phase it benefited from genuine tradition, the kind of living, *continuative tradition* that was handed from father to son, and that was still strong enough, even in the Greek Revival, to make this a variation rather than a break within the continuity. By the time the Industrial Revolution had substituted "more and more reliance on statics and dynamics, functional thinking, measured drawings, the whole new paraphernelia" and come into the High Victorian style, continuative tradition was pretty well dead, and architecture was more and more invented. The break with true tradition came with Eclecticism, in which style is conceived simply as a "commodity" to be picked up from any land or any century and applied regardless of time or place, so "Cape Cod invades Texas while ranch-style houses invade Cape Cod." The greatest Eclectic revivalist was H. H. Richardson, whose famous Trinity Church in Boston is in the English sense a "folly" having slight organic relationship with its time, its place or its immediate neighborhood. The present-day Traditionalists are Eclectics at heart but have narrowed the choice of models to revivals of native styles. He goes on:

In presenting this condensation of a chapter from Kennedy's forthcoming book,
The House and the Art of Its Design *(to be published by Reinhold this fall),*
FORUM's *editors act in the belief that the argument is equally applicable to larger buildings.*
But in this debate all opinions are the author's and do not necessarily reflect the opinions of FORUM.
This is the third in FORUM's *series on the crisis in architecture.*
Preceding articles: "The language of organic architecture," by Frank Lloyd Wright (May '53);
"The six broad currents of modern architecture," by Eero Saarinen (July '53).

then what?

The gap between the Traditionalist and his models is now some 100 years in extent, a century marked by tremendous changes in our culture, economy and technology. It constitutes a moat between the practictioner and his idealized models. He is effectively isolated from his sources. This leads quite inevitably to nostalgia and results in a derogatory attitude toward contemporaneousness, in conservatism. In adopting this position, the Traditionalist cuts himself off from the principal well of creative energy, the present. Expression is denied him.

For example, an important characteristic of building, as expression, is that it must open for us some new perception of the nature of our time. This feeling is completely absent from traditional work. What we miss is the sense of an intuitive reorganization of our present position.

The Traditionalist's sources, the dead American styles, are of course now incapable of growth. Nor can the Traditionalist himself change them very greatly, lest they become unrecognizable. They must remain forever static. The Traditionalist, therefore, defines tradition as fixed, dead, unchanging and unalterable. This is the essence of his conservative approach. It is in their ability to suggest security that the Traditionalists have a fast-selling and almost universally wanted commodity. No left-wing movement will ever have a solid effect on style, and thus on environment, until it too puts the average man in touch with his place.

The International Style: a dogmatic revolt

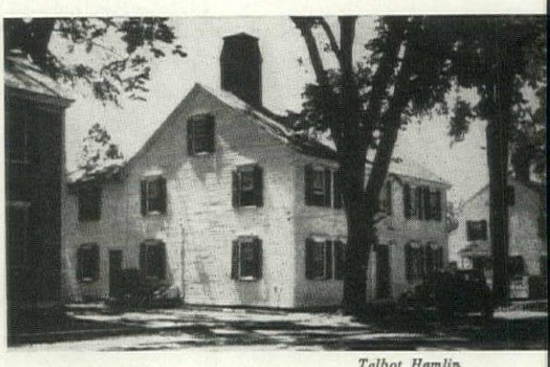
Traditionalism is essentially a flaccid reform movement within Romanticism, which has been the main stream of US architecture. The International Style is a violent revolt from all that Romanticism means. Typical of revolutions, it is highly dynamic and dogmatic. Its fundamental proposition can be cartooned as follows:

> The failure of the previous styles is due to their neglect of the present.
> Therefore we will reintroduce contemporaneousness.
> Our times are characterized by science and technology.
> Therefore we will design for biological and physiological man (science) in keeping with current techniques (the machine). As biological man is universal, and as the machine *should* be common to all cultures, our theory will necessarily be universal in applicability.

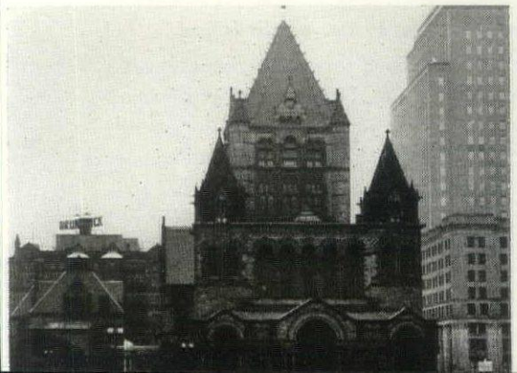
This propostion, naive though it is, has freed architects from the bondage of "Ruskin-type" thought. The energy it has released is due to its opening up of science and technology as legitimate stimulae. Its failure lies in the narrowness of its definition of man, and in the inaccuracies of its application of technology to building. Both faults are the outcome of the self-conscious, rather than intuitive, definition of the present. While the machine is perhaps symbolic of our time, it has very little place indeed in the building industry — a craft operation par excellence. Thus the smooth stucco surfaces typical of the earliest International Style, "as if rolled out of a machine," and the current efforts in this country to achieve the same effect in wood, are at best prognostications and at worst distortions of fact. The same obscurantist effect is produced by the basic proposition relating to man. Such slogans as "the house is a machine for living," and the overemphasis on biology and physiology, tend to obscure the fact that houses and buildings are environmental in nature, and that man's spirit and intelligence are as important to his total adjustment as his body is. The distinction here is similar to the one made in medicine between the organic and the psychosomatic approach to disease. The Internationalist position does not allow man a soul.*

*Isn't that last sentence a little strong?—Ed.

***"The Traditionalists' sources,** the dead American styles, are now incapable of growth"— Main Street, Wickford, R. I.*

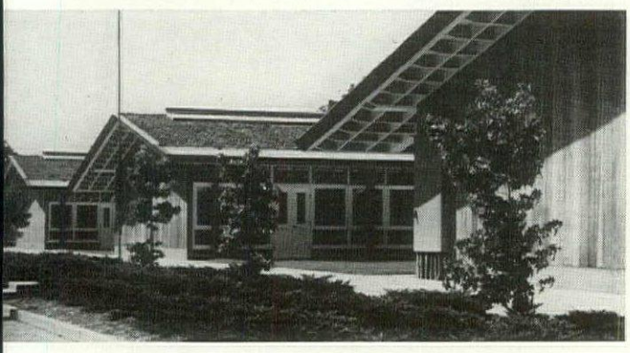


Talbot Hamlin



***"A beautiful folly** having slight organic relationship with its time, its place or its immediate neighborhood"—Trinity Church in Boston by H. H. Richardson.*

Photos: (below) Rondal Partridge; (others) Roger Sturtevant



***"Empiricist work** is humanly robust, varied, with great emphasis on personal emotion . . . as in the Bay Area style"— elementary school by Ernest Kump Associates.*



***"It has adopted some Internationalist precepts** and opposes others"— the same kind of building in the same city by the same architect: high school, San Jose, Calif., by Ernest Kump Associates.*

The peculiar character of the International style is directly traceable to these two distortions. To design a handmade building as if it were to be made by a machine is futuristic. The robot-like, impersonal concept of man is also typically futuristic. Thus while contemporaneousness is the desired goal, errors in definition have caused the movement to miss the present. In this sense it is a new phenomenon in the history of architecture. It is a prognostication of things to come. The future is used to guide the present. A natural result is that the past seems of no relevance to either.

Style is yet again placed out of the immediate present and is considered placeless, as it was by the Eclectics.*

Any theory designed for world-wide use must be extremely clear, well documented and dogmatic. It must also carry a reformist emotional charge. It need not, however, be practical in a pragmatic sense. International stylism is no exception. Its bible is the complete work of Le Corbusier; its Golden Age was the Bauhaus at Weimar; its Collegium Romanum is the C.I.A.M., its rules were codified in *The International Style — Architecture Since 1922* (Henry-Russell Hitchcock Jr. and Philip Johnson). Its connection with science is reflected in Siegfried Giedion's *Time, Space and Architecture* (courtesy of Mr. Einstein) while its concern with the machine is reflected in his *Mechanization Takes Command.*

Another way forward: the "New Empiricism"

The Traditionalists' failure to produce architecture and the Internationalists' failure to respect environment, personality, individualism, were bound to cause yet another search for a new point of adjustment. The London *Architectural Review* has dubbed this last movement the "New Empiricism," i.e., "the effort to humanize the esthetic expression of functionalism." Empiricism is an attempt to return, at least in part, to continuative Traditionalism — to something that disappeared after the first phase of Romanticism. But it owes most of its character to the International Style movement. It has adopted some, and opposes others of the Internationalist precepts; the Empiricists largely eschew science, theory and dogma, and depend instead on experiment and experience. They are apt to be common-sensical, anti-rule, anti-style, anti-dogmatic, careless of techniques—all qualities opposite to those of either the Traditionalists or the Internationalists.

These qualities result in an easygoing and rounded atmosphere. Empiricist work is humanly robust, but often fragile and temporary in structure. It necessarily lacks the extreme clarity, the sharp and easily understood outlines typical of architecture based on dogmatic theory. It enjoys neither the models, the measured drawings and details of the Revivalists, nor the sure knowledge of what is right, typical of the Internationalists. It is rooted in the present, i.e., in the person of the practitioner, in his feelings and intuitions.

Empiricism is regional: for example, in the Bay Area

Empiricism tends to become regional in character, rather than to internationalize itself, and to breed anonymous architects rather than the highly visible and notorious personalities more typical of Internationalist architects. It tends to create loosely organized schools rather than to attract ardent disciples. The greater freedom the method allows to its practitioners results in a far more varied, less obviously "modern," often less brilliantly organized and proportioned type of work, with much greater emphasis on personal emotion, or play. The Bay Area style is an example in point.

The Empiricist style is accurately adjusted in time between past and future, and its adjustment to place is equally complete. It responds to environment, and its understanding of tradition and respect for it is profound. In a comparison of the various present-day adjustments, it is the most complete and well founded since the death of genuine tradition. The Empiricist proposition can be cartooned as follows:

> The failure of the previous adjustments was due to their emphasis on techniques, documentation, rules and dogma, at the expense of human feelings and intuition.
>
> We will therefore avoid rules, form, permanence and theory, in favor of warmth, humanity and flexibility.

This proposition tends to be reactive, i.e., it is against the previous adjustments. By the same token it is not thoroughly grounded in a philosophy of its own. Thus while the Empiricist adjustment to *period*, *place*, and *process* is complete, its adjustment to *form*, *function*, and *expression* is heavily weighted toward *expression*, and tends to avoid *form*.

This de-emphasis of techniques, of form and of the sort of simple rule on which the average person can hang his hat is, perhaps, essentially unbalanced. It is bound to result in yet another search for a new point of adjustment. The Empiricist thinks of the Internationalist as "the man of iron whim," and there is more than a little truth in this epithet. Yet the need for iron, for an easily understood skeleton, is a human desire which cannot be denied.

To correct Empiricism—a greater sense of direction

One might predict that that "Directivism," or a new resolution of style, environment, tradition, and of form, function and expression in an esthetically directed manner, will sooner or later supersede Empiricism. It can be argued that such an adjustment comes perilously close to completing the circle. It may well be that the introduction of a ramrod in the Empiricist's jacket will, sooner or later, cause his pseudo-Traditionalist slump to disappear.

** These Mr. Kennedy identified elsewhere as the architects who would choose any style from any place and any age, like a ready garment in which to clothe the building. They were at their height after the Victorian age and before the Traditionalists limited the borrowing to our own past.*

present is hard to bear	**TRADITIONALISM**	*past was better*	*archaic*	*handicraft*	
				immobilization	
			conservative	*nostalgia*	
				reaction	
	INTERNATIONAL STYLE	*future will be better*	*futurist*	*machine workmanship*	
				proliferation	
			progressive	*moodlessness*	
				smugness	
present is vital	**EMPIRICISM**	*is disordered & uncontrollable*	*opportunist*	*formlessness*	
				variety	
			individualist	*personalized goals*	
				nationalism	
	DIRECTIVISM	*is ordered & controllable*	*responsiveness*	*formality*	
				order	
			collectivist	*group goals*	
				regionalism	

It is all too easy to think of even our current styles as vast historical movements, disconnected from real people. Actually the four modes just described are all now in full flower. They are being modified and refined by you, dear reader, me, this magazine, and by all the people who commission architects. Thus while we share this year of 1953, we must—in order to produce such different styles—disagree in our feelings about what the year 1953 represents. The effect on style of differences of opinion as to the nature of the present is shown in chart above:

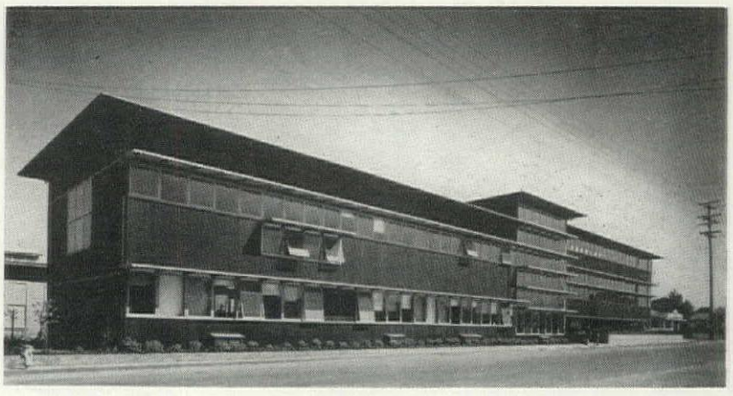
Directivism is obviously in the nature of a prediction of a style to come. Like most things seen in crystal balls it is one man's, or one group's, explanation of his or their intuitions about the drift of our times. The overriding idea of our moment is that man's spirit and destiny can be scientifically studied and, so to speak, discovered. A new architecture for man must be as sensitive to his inner and his social workings as are the social scientists studying him in the laboratory. It has been argued above that each new style is the result, in part, of a reformist charge. Why change if no improvement seems necessary? The four improvements which the drift of our times suggests (any one of which could produce Directivism):

1. A fuller understanding of the esthetic and social meaning of our man-made (historic) environment, and better efforts to preserve and improve its good qualities.

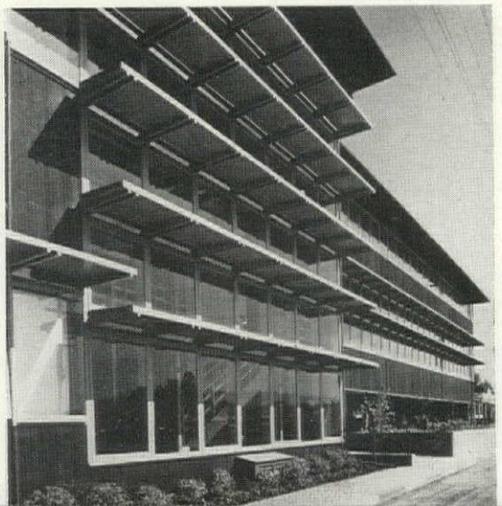
2. A fuller understanding of the relationship of man and nature. This relationship is obviously one of the root sources of sensual pleasure in architecture and, because it is not a constant, it must also play an important part in contemporaneousness. To be up to date is to realize accurately what that relationship presently is.

3. A fuller understanding of the comparisons we make between our bodies and structure and mechanical equipment. The ancients drew analogies between the whole of a form (as a pediment, columns and base) and our body as a whole. We see brick as skin, plumbing as entrails, wiring as a nervous system, steel as bone. How can we make full use of the emotional charge inherent in the contemporary way of making analogy between these "organs" and our own?

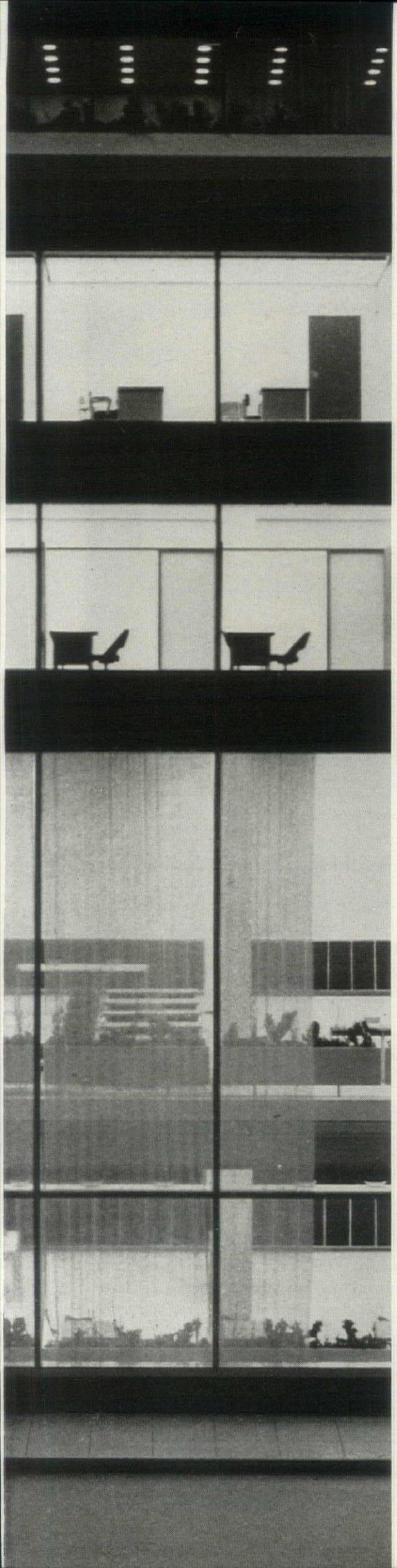
4. A fuller understanding of the symbolic meanings of forms. The ancients saw the dome as a symbol of a very ancient god's hut within a sacred grove. We are apt to see it as a woman's breast, or alternatively as a skull, the enclosure of the intellect. In either case, powerful and deep-rooted emotional chords are struck, and one of Directivism's chief pleasures will be to discover and use other such involuntary reactions. *(Continued on p. 186.)*



*"**Directivism** is a prediction of a style to come: a fuller understanding of environment, the relationship of man and nature, the comparisons we make between our bodies and structure and the symbolic meaning of forms"—Schuckl Building, Sunnyvale, Calif., by Wurster, Bernardi & Emmons.*




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Banks used to sell *security*. But now, with their deposits federally insured, they are selling *service*. Today's bankers are an aggressive new breed of financial merchandisers, replacing the stiff old banking types of yesteryear, and they are out to lure every passing pedestrian into opening a special checking account.

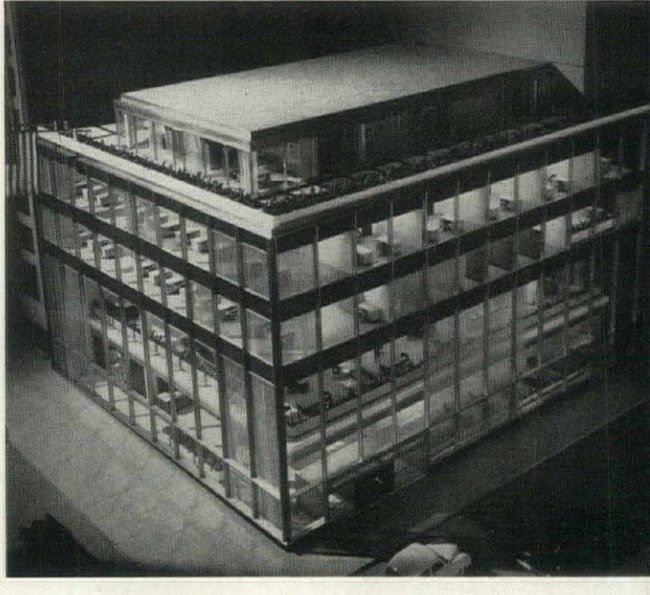
That is the story behind the decision of Manufacturers Trust Co. (fourth largest US commercial bank) to put up a $3 million Manhattan branch with the most impressive facade in town, one walled with no marble slabs, but with slabs of clear glass—slabs as big as 9′ x 22′ in one piece, expressing with their lavishness a dynamic new kind of prestige design for large financial institutions (for a smaller example in Kansas City, see p. 160). The bank's president, Horace C. "Hap" Flanigan says: " . . . Banking today is a selling service. . ."; his show windows will be the biggest in town.

Behind the 200′ stretch of 60′ high glass wall angling around the southwest corner of Fifth Ave. and 43rd St. will be two tremendous open banking floors and two office floors, with a luxurious executive penthouse riding the roof—all in the bold idiom of Architects Skidmore, Owings & Merrill.

There will also be a functional difference between this bank and the customary marble mausoleum. "This is a store type of operation," says SOM's Gordon Bunshaft, "open, departmentalized, efficient. Downstairs on street level we put the special checking division where the main volume of business is handled—the ten-cents-a-check department where you go in, cash a check, and get out fast. On paydays the traffic is terrific."

Up the escalator, on a mezzanine set back from the exterior wall, is the main banking floor for commercial accounts and senior officers. This is big too—6,000 sq. ft. of floor space accessible to the public compared with 9,300 sq. ft. for the public downstairs.

Photos: © Ezra Stoller



***Model** is built to 3/8" scale by Theodore Conrad. Ground floor is for special checking accounts, mezzanine for bigger accounts. Above are offices.*

SKIDMORE, OWINGS & MERRILL,
achitects

Partners in charge:
William S. Brown—coordination
Gordon Bunshaft—design

GEORGE A. FULLER CO.,
general contractors

SYSKA & HENNESSY,
mechanical engineers

WEISKOPF & PICKWORTH,
structural engineers

ELEANOR LEMAIRE,
interior design consultant



Main facade *along Fifth Ave. is all window. Vault is at lower left, great decorative bronze screen at rear of mezzanine*

In a Fifth Ave. show window: two office floors, two banking floors, including the vault,

Facing the mezzanine are the immense sheets of glass—upright 9′ x 22′ x ½″ panes, which are being specially rolled. These will be clear glass (heat-resistant glass could not be bought in such sizes) and so will the rest of the building's exterior wall, except for the thick edges of the floor "slabs." The architects dared make this decision because very little direct sunlight ever will hit the walls of this building. Exposures are north and east, and high buildings across Fifth Ave. shadow the east wall. To combat glare, the glass walls will be screened with gauzelike curtaining of a gold tint.

The big glass sheets will be heavy (1,500 lbs. each) and expensive, but the whole wall will not cost as much as the typical bank wall of granite, according to SOM. The biggest part of the big glass expense will be in placement; each sheet, carefully crated, will have to be taken up on exterior scaffolding and walked into place. Say the designers: "It was within the budget."

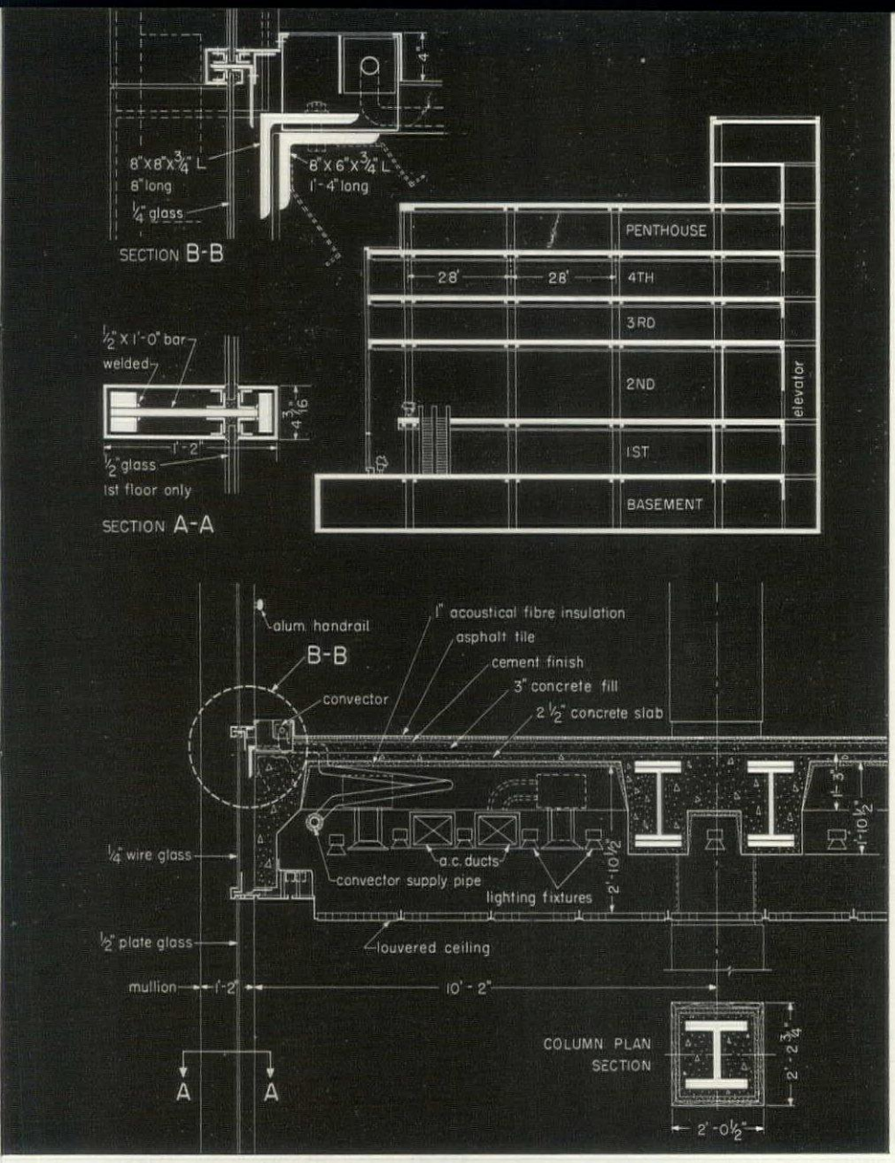
Other results of this raid by SOM into the bastion of conservative design, the banking world, are these reversals of historic form:

An intangible investment, not an income investment. Manufacturers Trust could have built a skyscraper on this site; next door is one of Manhattan's biggest and most profitable, the 59-story 500 Fifth Ave. But zoning regulations force buildings of more than 75,000 gross sq. ft. to include off-street loading platforms. A skyscraper would also need big banks of elevators which would have eaten up most of the first-floor space, shoving the bank itself upstairs or down. Also, from the fourth floor up, a 25′ setback from the neighboring skyscraper would be necessary because the neighbor owns air rights. So the bank came easily to the decision to build a structure just under 75,000 sq. ft., the street floor of which would be clear for themselves, not cluttered for tenants.

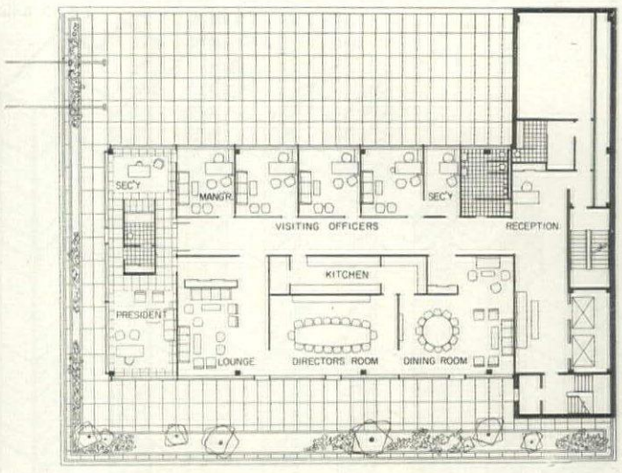
The new bank will stand with SOM's Lever House as an example of what can be accomplished architecturally when the zoning laws do not shape the structure. Lever, on a site assessed at $3 million, fills only about one-third of the maximum zoning envelope; the new bank, on a site about one-third the size of Lever's, assessed at $2.3 million, will fill only about one-fourth of its maximum legal cubage.

Sculpture, not murals. The literal illustrations of fine old historical happenings, heroic in size, which decorate the interior walls of most banks will not appear here. Instead there will be an even more heroic sculpture by Harry Bertoia (AF, Sept. '52, p. 142), a 70′ long, 18′ high screen wall made of large suspended plaques of bronze. It may be the most appropriate art a bank ever had, looking like a great wall of abstract wealth.

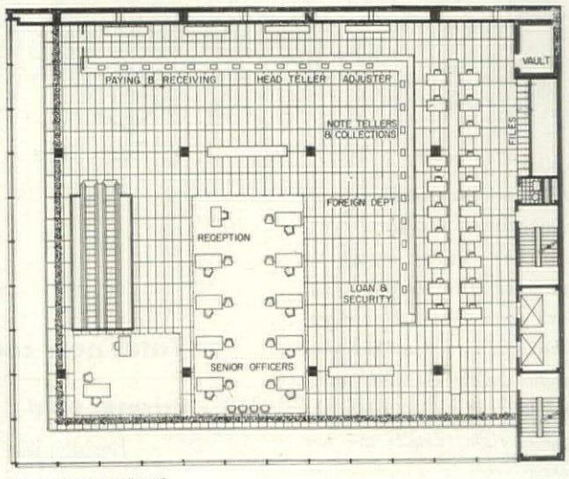
A vault in the window. The inner safe has been dug up from its time-honored place in the basement and put on display on Fifth Ave. behind the first-floor glass wall. There its massive, bristling door will be spotlit night and day, gleaming against a wall of black granite. The door itself is being redesigned by Henry Dreyfuss and, according to SOM, is regarded with a good deal of esthetic emotion by the bankers. "It's like sailors and boats. While we were designing the building, the bankers kept taking us down into bank cellars and showing us vault doors; then they would stand around looking at them, and say to each other reverently, 'Isn't it beautiful!' After a while we began to agree."



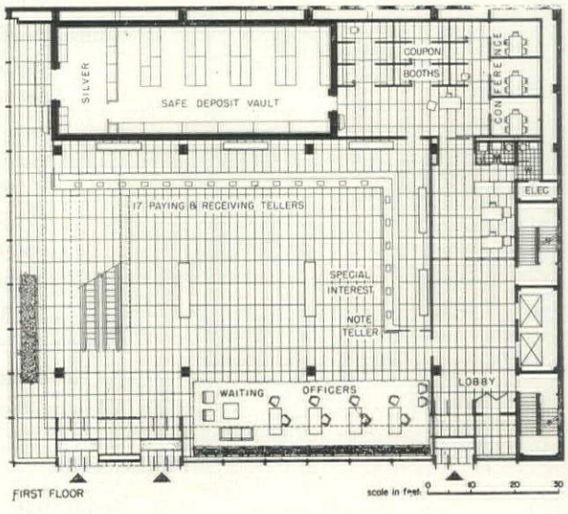
Typical section *at spandrel shows window detailing, floor cantilever*



PENTHOUSE



SECOND FLOOR – MEZZANINE



Side-street facade *contains main entrance. This simplifies traffic flow on main floor because moving stairs are directly beyond entry.*

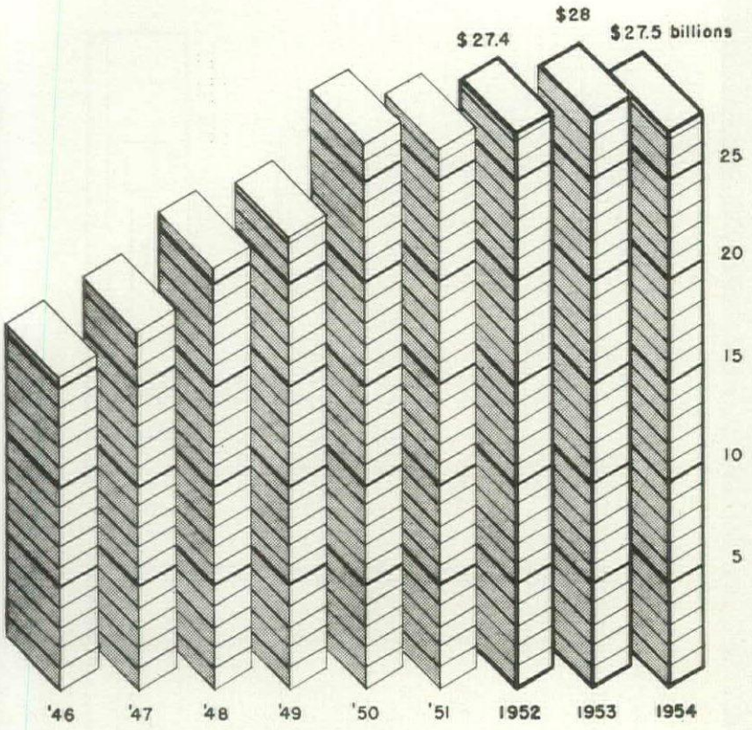
and the world's biggest glass panels

Sandwich ceiling. The mechanical system, the veins and arteries of the building, will be as hidden as its heart, the vault, is visible. All services—electricity, high-velocity air conditioning and water—run up a hollow south wall into each floor "slab." These are 3′-6″ thick, including structure and over-all lighting, which will be either by egg crate or a paper-thin plastic luminous ceiling. The slab edges are expressed neatly on the exterior facade by a spandrel strip of wired glass, its back sprayed with gray cocoon plastic.

A wall in tension, not compression. The exterior glass wall does not support anything; it is a true curtain, hanging from the cantilevers. The structure that supports this cantilever is simple; within the 100′ x 125′ rectangle of the building are just eight interior columns. The main steel framing is toward the cantilever, with close-spaced concrete joists bridging the intermediate spans. Longest column setback is from the side street, fully 19′ from the sidewalk; longest span, 48′.

To close observers of Skidmore, Owings & Merrill's techniques, the new bank will mark a definite shift of emphasis within the esthetic they have made their own, with far more surface texture than Lever House's slick wall. The bank's polished aluminum mullions (stainless steel was not available in sufficient quantity) will project 10″ from the glass; Lever's stainless framing projected only 1¼″ from the glass. Lack of color in the glass also will count heavily in the finished structure; the monotone shell, the concept of which was first developed by SOM Designer Charles E. Hughes III, will have more severity and dignity than Lever.





Postwar construction trend: *Forecast of next year's construction activity stacks up favorably with preceding postwar years. Graph above charts the trend in deflated (i.e. constant) dollars — 1947-49 prices considered par — while the table, right, details the last three years in actual dollars.*

FORUM FORECAST:

NEW CONSTRUCTION ACTIVITY (millions of dollars)

	1952 actual	1953 estimate	1954 forecast
Total new construction	**$32,638**	**$34,600**	**$33,300**
Private, total	**21,812**	**23,100**	**22,400**
Residential (nonfarm)	11,100	11,700	11,300
New dwelling units	9,870	10,350	9,900
Additions and alterations	1,045	1,100	1,150
Nonhousekeeping	185	250	250
Nonresidential building	5,014	5,400	5,200
Industrial	2,320	2,150	1,900
Warehouses, office and loft buildings	515	680	725
Stores, restaurants and garages	622	970	975
Other nonresidential building	1,557	1,600	1,600
Religious	399	450	400
Educational	351	410	450
Social and recreational	125	150	200
Hospital and institutional	394	300	300
Miscellaneous nonresidential	288	290	250
Farm construction	1,610	1,475	1,300
Public utility	4,003	4,430	4,500
All other private	85	95	100
Public, total	**10,826**	**11,500**	**10,900**
Residential building	654	500	350
Nonresidential building	4,119	4,600	4,200
Industrial	1,667	1,900	1,700
Educational	1,619	1,800	1,800
Hospital and institutional	473	400	300
Administrative and other nonresidential	360	500	400
Military and naval	1,388	1,400	1,200
Highway	2,860	3,100	3,300
Sewer and water	692	750	800
Miscellaneous public service enterprises	193	150	200
Conservation and development	854	900	800
All other public	66	100	50

Source: 1946-1952, US Departments of Commerce and Labor; 1953 and 1954 estimated by ARCHITECTURAL FORUM.

1954 will be another boom year for building. Continued activity in all types of construction is expected to maintain next year's industry expenditures at close to the record volume of 1953 and 1952. An analysis of the factors affecting the future trend of construction by Economist Miles L. Colean

During 1953 the dollar volume of construction will be the largest in history—over $34.6 billion. Practically every form of new construction activity—private and public—will share in this $2 billion advance over the record set in 1952.

Next year—1954—is certain to be another big year. Although it will not set a new record, 1954 seems sure to exceed 1952's volume of activity, and 1952 was the record year up to then (see table). Even allowing for inflation, the 1954 volume will compare favorably with previous years (see graph).

Just *how* big 1954 will be depends a good deal on what the construction industry itself does about it. It will be a year of tough competition in which the customer's canny buying must be matched by aggressive, imaginative selling. Yet markets still are far from saturation, basic sources of demand remain in force, and the economy still is strong. The year can be big if industry is determined to make it big.

PRIVATE CONSTRUCTION should be not more than 3 to 5% below 1953. That will still be a little more than the volume in 1952.

Nonfarm private housebuilding probably will react the same way as total private activity. Housebuilding should be down perhaps 4 to 6% in dollar volume from 1953, and almost the same as or slightly more than 1952. Nevertheless, housing is one of the iffiest parts of next year's construction. The outcome will depend a good deal on whether the government acts to make FHA and VA interest rates attractive enough to compete for their historic share of the nation's investment money. But at worst the dollar volume of *new dwelling units* should not be much below what is shown. In starts, there is a good chance of a million-house year, and even if the FHA-VA interest boggle continues, the prospect still is for at least 900,000 houses in 1954. (For details of the housebuilding forecast, see p. 174—Ed.)

Major additions and alterations should continue to expand in dollar volume. So should *hotels, motels, and other nonhousekeeping* residential construction. *Nonresidential private building* in total will be close to 1953's *record volume.*

Industrial building activity will continue to slow down; but the dollar figure in 1954 will probably be no more than 10 to 15% below that of 1953.

Warehouses, office buildings and loft buildings will exceed 1953's activity, while **stores,** shopping centers, garages, and restaurants should at least not lag behind.

Religious buildings, private school and college buildings, libraries and museums, social and recreational building, private hospitals, as a group, should just about keep pace with 1953's substantial volume.

Farm construction, reflecting a lowered level of farm income, will continue the drop begun in 1953.

Public utilities: *railroads, telephone, telegraph, electric power and service companies,* etc., as a group, will continue a mild rate of expansion.

GOVERNMENT CONSTRUCTION as a whole in 1953 may drop around 5 or 6% both as a result of federal cutbacks to avoid exceeding the statutory debt limit, as well as to build a stockpile of projects in case of a recession.

Public housing construction will take another sharp setback as a result of the Congressional limit of 20,000 starts.

Combined federal, state and local **nonresidential building** is likely to be 8 to 10% below 1953, with most of the drop coming in the federal government's **industrial activity** (mainly atomic energy) and **veterans' hospitals.**

Local school building, both primary and high schools, and *university building* will undoubtedly keep pace with this year's level and may very well move ahead.

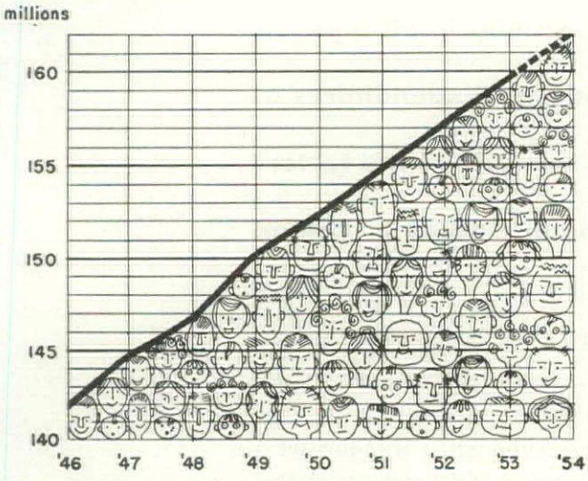
Fewer government **administrative buildings** are likely to be built in 1954 than 1953, again largely because of restraint by Washington.

Military and naval construction, because of more rapid completion of projects now under way, may slow down in 1954.

Highway building will continue to expand. Toll roads will be a notable feature in 1954. In their wake: a sizable volume of *motels, restaurants, filling stations* and similar private building. All in all, if 1954 will not be a year of advancement in all lines of construction, it will be a year with no major faltering in any segment. It promises strength and stability for the whole, with much needed building left for the future.

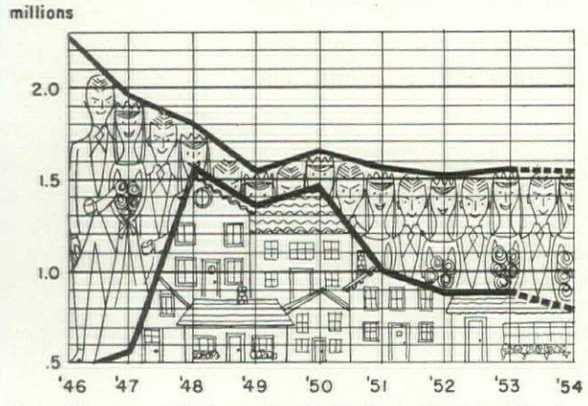
Here are some of the reasons why construction can have a good year in 1954

Population



Total population residing in the US, end of each year. Source: 1946-52, Bureau of the Census; 1953 and 1954 estimated by Architectural Forum.

Marriages and Household Formation



Data are as of April except for the 1950 figure which is as of March. Sources: Marriages, 1946-51, US Department of Health, Education and Welfare, 1952-54 estimated by Architectural Forum; *household formations, 1946-52, Bureau of the Census, 1953-54 estimated by* Architectural Forum.

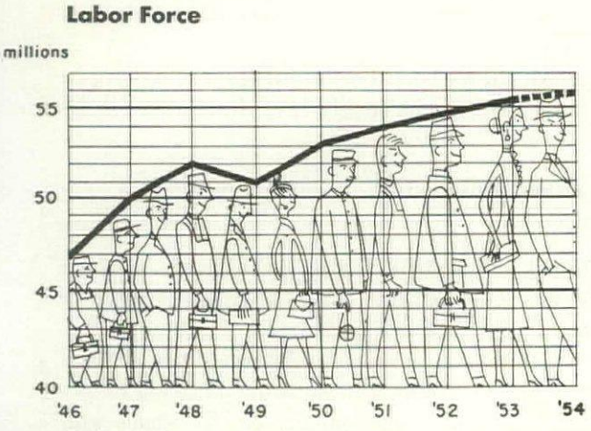
Migration of Civilian Population

	1951	1950	1949	1948
Occupied same house	78.8	80.9	80.8	79.8
Moved to different house, same county	13.9	13.1	13.0	13.6
Moved from outside of county	7.3	6.0	6.2	6.6

Source: Bureau of the Census.

Data are as of April except for the 1950 figures, which are as of March.

Labor Force



Employment in nonagricultural industries. Source: US Department of Commerce; 1953-54 estimated by Architectural Forum.

Population is still growing rapidly. In fact, the growth is close to the Bureau of the Census' highest estimate of probable population increase. If growth continues at the pace set from 1950 through 1953, we will add 23 million people to our population in this decade—about 6 million more than were added during the lush 1920s. This is a spectacular prospect.

Marrying is still a booming enterprise, despite the upsurge in the marriage rate after World War II and despite the now declining number of persons in the marrying age brackets. The number of new marriages during the past several years has been remarkably stable. This should continue.

Household formation appears to be stabilizing at a level exceeding anything reached outside of the first postwar peak. The large number of marriages is one element sustaining a high net number of new households. But there are other reasons for the high figure: many single persons establish households; widowed and divorced persons frequently keep up separate homes; other couples, aided by savings, pensions and social security, maintain their own independent living long past the age once customary. Doubling up is no longer popular and, with today's prosperity, it is no longer widely necessary.

Mobility as well as growth is characteristic of the population. People are on the move. In 1951, nearly 14% of the people moved to a different house in the same county. More than 7% moved beyond the county in which they were living. The same sort of movement has been going on year after year. The significance of this is the sustained demand it promises for all kinds of construction—more houses and more factories, stores, streets, highways, public utilities, schools and hospitals to serve the people that live in them.

Demand is kept effective by a growing labor force, working at peak employment. The total labor force of over 65 million matches the swollen limits reached during the war years, even including World War II's hordes of armed men. At around 55 million, *civilian employment* (other than farming) exceeds that of any previous year. Farm employment has been gradually declining with the movement of workers to cities. The trend will continue. This fall about 1.5 million persons were employed—less than 2% of the total labor force. In other words, with allowance for time lost between jobs, nearly everybody who wants to work can find a job. In 1954, some drop from today's payrolls seems likely—accompanied perhaps by doubled unemployment. But we should still have close to as many people employed in 1954 as in 1953.

Even with some possible drop in individual family income in 1954 as compared with 1953, *the national aggregate of* ***personal income*** *will be sustained* by the high level of employment and by the profitable operations of business.

Private construction demands *depend mainly on prosperity, and the basis of prosperity is with us. Any decline in business that appears in prospect for 1954 is not likely to be sufficient to disturb this solid base.*

Construction requires lots of money; *and the supply of funds in 1954 will be greater than in 1953.*

The liquid funds (currency, demand deposits and government bonds) in the hands of individuals and business organizations in 1954 will be around $191 billion, or about half a billion more than this year. Part of these liquid funds will be available for investment in building construction.

Close to $15 billion is in depreciation reserves of industry. Practically all of this will go into new construction, new equipment or plant modernization.

Funds for new loans will also be available in greater amounts in 1954 than in 1953, which in itself was a record year. Since construction activity is mainly carried on on credit, this is critically important. Over 80% of savings and loan funds, more than one-quarter of life insurance company funds, about 45% of mutual savings bank funds and close to 40% of commercial bank time deposits are invested in real estate mortgages. These institutions account for three-fourths of all mortgage holdings and are the year-in, year-out sources of mortgage money. That is why these figures have so much significance. During 1954 the total net increase in the assets of savings institutions will be about $12 billion. The pay-offs on already existing loans will amount to around one

and a half times this amount. *Altogether, there should be at least $30 billion available for investment of all kinds in 1954 from the savings institutions alone, close to half of which would be available for mortgage loans.* This would, at the minimum, assure as great a supply of mortgage funds in 1954 as these sources are providing in 1953. And for mortgage lending as a whole, 1953 has been a record year.

Money generally will be easier to borrow in 1954 than it has been during much of 1953. In addition to the effect of the continual growth of savings funds, both the Federal Reserve Board and the Treasury are now following a policy of gradual economic expansion. There is little probability that money will again (at least in 1954) become as tight as in mid '53. Interest rates will drop somewhat from the highs in May and June.

Taxes will be lower in 1954. The excess profits tax will die. Personal income taxes will be cut; some excise taxes will be reduced or dropped. All these will provide *strong incentives to economic expansion and construction.*

Costs will be stabilized. Under the pressure of 1953's demands, construction costs moved gradually up. Nearly everything that builders buy costs more than it did at the beginning of the year. Wages, too, continued to rise.

The outlook is for a leveling off, and possibly for a slight decline in construction costs during '54. Wages should hold firm. Materials prices may edge down a little. Some savings will result from the steadily spreading adoption of methods that save both labor and materials.

There is no "mature economy" in construction. Despite eight fat years, there is still no good reason to believe that construction has been overdone. Quite the contrary—*recent rates of building in relation to the size of the economy have not come up to the performance of earlier times.*

Take, for example, just three types of private building—residential, industrial and commercial. The average dollar volume of private residential building during the first eight years after World War I (1919-26 inclusive), in relation to the average gross national product for those years, was over one-third more than during the first eight years after World War II (1946-53 inclusive). In only one post-World War II year, 1950, did we reach the *average* relation of housebuilding to GNP for the years 1919 through 1926.

The average dollar volume of industrial building in relation to GNP was one-sixth more in the post-World War I years than the post-World War II years, and in only three of the last eight years did industrial building hit the former average, and in only one of those three years did it exceed that average—and this in face of a phenomenal industrial expansion.

For commercial building, the discrepancy is even greater. The average amount of commercial building—office and loft buildings, stores, warehouses, garages, restaurants—following World War I was over twice the average volume, in relation to GNP, of that following World War II. Not one post-World War II year had as high a relation of commercial building to GNP as the *lowest*-ratio post-World War I year.

In contrast to the divergence of these types of private activity during the two postwar periods, the relationships of public construction to GNP during the two periods were very close. Yet after World War I, there was no continued military and naval construction and no vast atomic energy investment—two items that have helped to sustain recent public building at its high level. *The ordinary garden varieties of public construction have lagged seriously behind conservatively estimated current needs.*

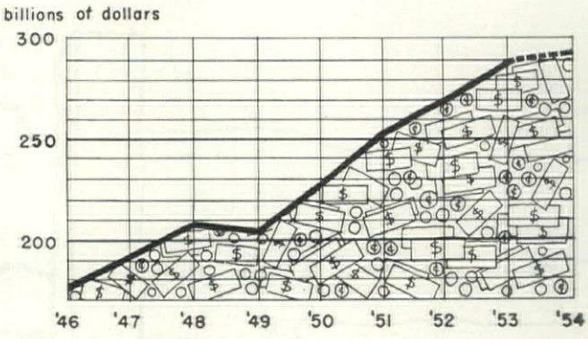
During each of the remaining six years in this decade we could average the following amounts of public construction with assurance that we would not be overdoing the job:

Schools, colleges, libraries and museums	$2,500,000,000
Hospitals and other institutions	800,000,000
Administration and miscellaneous	900,000,000
Sewer and water installations	900,000,000
Highways	4,000,000,000

While these averages are undoubtedly higher than what is actually likely to be achieved, they demonstrate not only the size of the potential volume in these areas, but also the possibility that exists of stepping up public construction to meet any serious future decline in private activity.

continued on p. 174

Personal Income



Source: 1946-1952, Department of Commerce; 1953 and 1954 estimated by Architectural Forum.

Costs and Prices (1947-49 = 100)

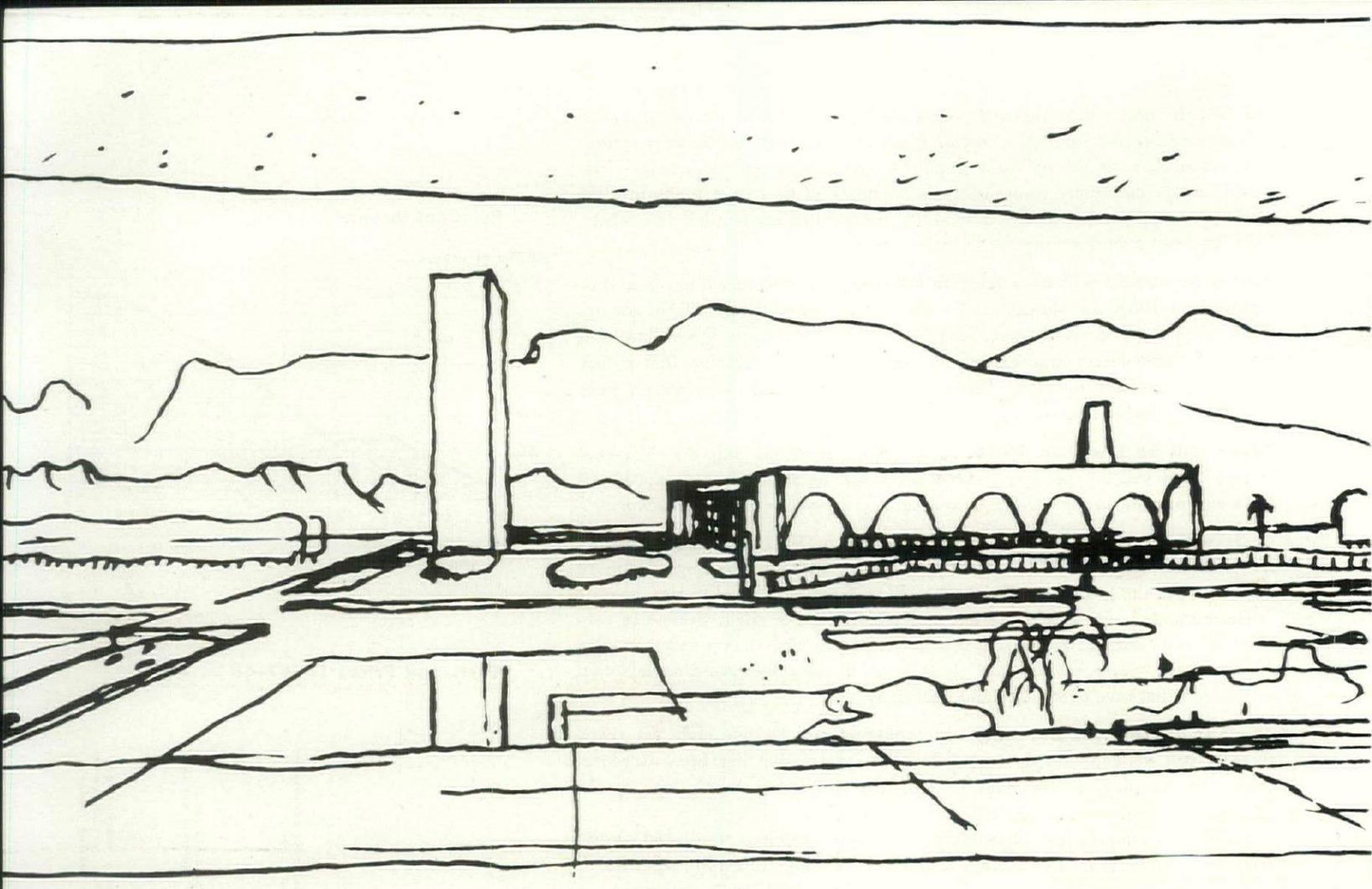
	Composite construction cost index	Wholesale prices of building materials	Union hourly wage rates for all workers in building trades[a]
1946	76.5	69.5	80.5
1947	93.2	94.2	92.1
1948	104.1	104.4	101.8
1949	103.1	101.4	106.1
1950	106.5	109.5	110.7
1951	115.5	119.6	117.8
1952	119.2	118.2	125.1
1953	125.0	121.0	131.0
1954	125.0	120.0	134.0

[a] *Data reflect the wage rates in effect on July 1 of each year.*
Sources: 1946-1952, US Department of Commerce, US Department of Labor; 1953 and 1954 estimated by Architectural Forum.

Ratio of Private Building to Gross National Product, Two Postwar Periods

	Residential	Industrial	Commercial
1919	2.2%	0.7%	—
1920	2.2	1.2	0.7%
1921	3.0	0.8	0.8
1922	4.6	0.6	0.8
1923	5.1	0.6	0.8
1924	5.9	0.5	0.9
1925	6.0	0.6	1.0
1926	5.8	0.8	1.1
Average	**4.4**	**0.7**	**0.9**
1946	1.9	0.8	0.5
1947	2.7	0.7	0.4
1948	3.3	0.5	0.5
1949	3.2	0.4	0.4
1950	4.4	0.4	0.4
1951	3.3	0.6	0.4
1952	3.2	0.7	0.3
1953	3.2	0.6	0.4
Average	**3.2**	**0.6**	**0.4**

Based on data from US Departments of Commerce and Labor.



What Corbu has been up to:

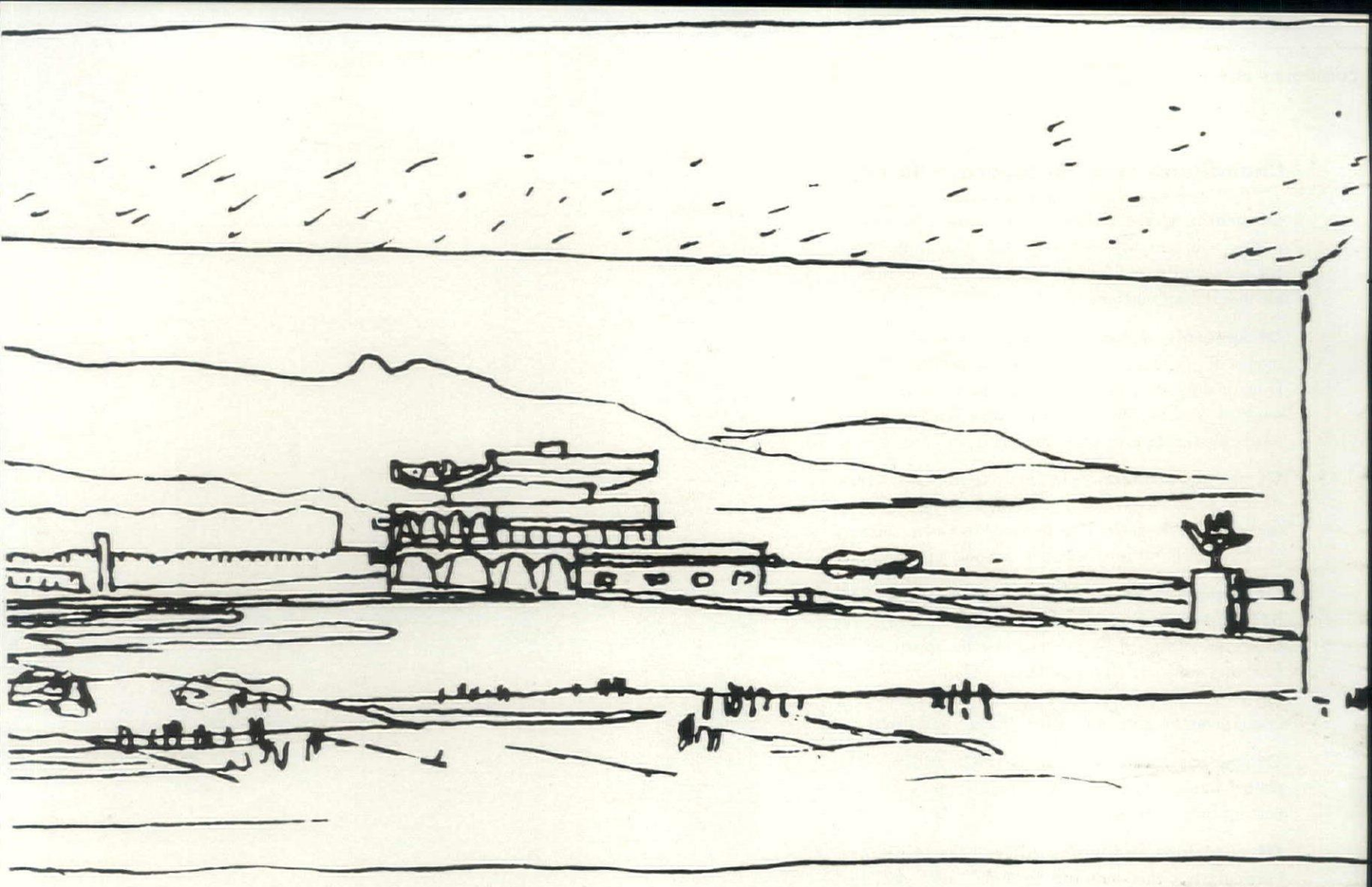
A REVIEW

Le Corbusier 1946-52 *(Vol. 5). Published by Boesiger aux Editions Girsperger Zurich. Wittenborn & Co., 38 E. 57 St., New York 22, N. Y., American sales agent. 248 pp. 9′ x 12″. illus. $12.50*

Charles Edouard Jeanneret, one of the magnetic poles of modern architecture, in this new book continues the saga of his design life, jubilantly described in captions in three languages (including English) and lavishly illustrated with drawings and photographs. Like the four that have preceded it, this is a deeply personal volume, but readers will recognize in its contents a personality and vitality mirrored by many designers in many fields. A large number of the new generation's architects work in forms defined by this impulsive, impatient genius. Those forms are nervous, brittle-seeming intellectual expressions of industrialism which he makes 20th-Century-human by adding vivid, almost brutal contrasts of burning colors and coarse textures (and which other architects sometimes leave incomplete in dead geometry).

What is new with Corbu since the war? In his architecture he has become more strongly sculptural; in career he is in the middle of executing the biggest mission ever given a great architect, an entire city in India (see next page); in energy, ambition, restlessness, "the Crow" is flying higher, cawing more importunately than ever. Today's designers will find this volume of marvelously engraved drawings and photographs as fertile as a full seed package.





building an entire new city in India, Chandigarh



The capital of Punjab Province (population 150,000) is starting from the scratch of Le Corbusier's pen

In 1791, a forceful young country which had just resigned acrimoniously from the mighty British Empire hired an emigré French engineer to lay out its new national capital. Major Pierre L'Enfant received $2,500 for his work; the new city was christened Washington.

In 1950, another withdrawal from the British Empire also turned to a Frenchman for the same kind of job, but bigger. India's province of East Punjab commissioned a team headed by Le Corbusier—and including Pierre Jeanneret and England's Maxwell Fry and Jane Drew—not just to make a study, not just to make drawings or a street layout, but to create a complete city for 150,000 people to move into in 1956.

To L'Enfant, his majestic city plan was a guaranty of lasting fame for an obscure patriot, soldier and planner. To Le Corbusier, his assignment was a chance to build on an unbelievable scale, an opportunity for him to shoot up and spread light like a Roman candle after an earthbound career which in 40 years has sputtered, fumed, smoked, sparked, but only occasionally taken flame to express itself in completed buildings. The opportunity came at a time when Corbu's apartment house at Marseilles (for 1,600 people) was thought to be his culminating masterpiece; but Chandigarh is 100 times bigger.

Out on the isolated Indian plain near the Himalayan foothills, the new city has actually been under construction for more than two years; Corbu and his associates have been commuting regularly by plane from their complicated European practices, flying off to another world to direct long lines of primitive Indian laborers in a new way of building. Cost considerations and the absence of modern construction machines keeps the new way simple, but Chandigarh's structures are being shaped into the French master's most sophisticated architectural sculpture yet.

Chandigarh is a 14-square-mile city:

Of green spaces. Fingers of foliage, elongated parks, will run through the city, providing areas for play and paths for strolling on warm evenings, an old Indian custom.

Of severely defined traffic. Automobiles and men will not mix. The plan strictly segregates cars from pedestrians, goes on to divide traffic into avenues of seven different characters and sink fast roads into earth (see plan, opp. p.).

Of neighborhoods. Twenty-five different residential areas, separated by through ways, make up the city, each with 128 houses, its own bazaar, clinic, police station, nursery school, cinema, etc.

Of unparalleled consistency in design. Few buildings will lack the Corbu flavor—and even those few designed by others must be approved by Corbu, Jeanneret, Fry and Drew. They are designing 13 residential types for various economic strata from peon to governor, plus official buildings.

Of low cost. The total budget is $35 million. The peons' houses, for example (see also p. 148), are costing only $620 each.

Of conscious monumentality. The buildings, particularly the capitol group, are designed plastically, abstractly—a strong contradiction of the mild, massive British colonial architecture that has dominated the land in recent centuries. But, says Punjab's chief engineer, Parameshari Lal Berma, "Abstract design is not something new in India. . . . Indian statuary is largely symbolic and abstract."

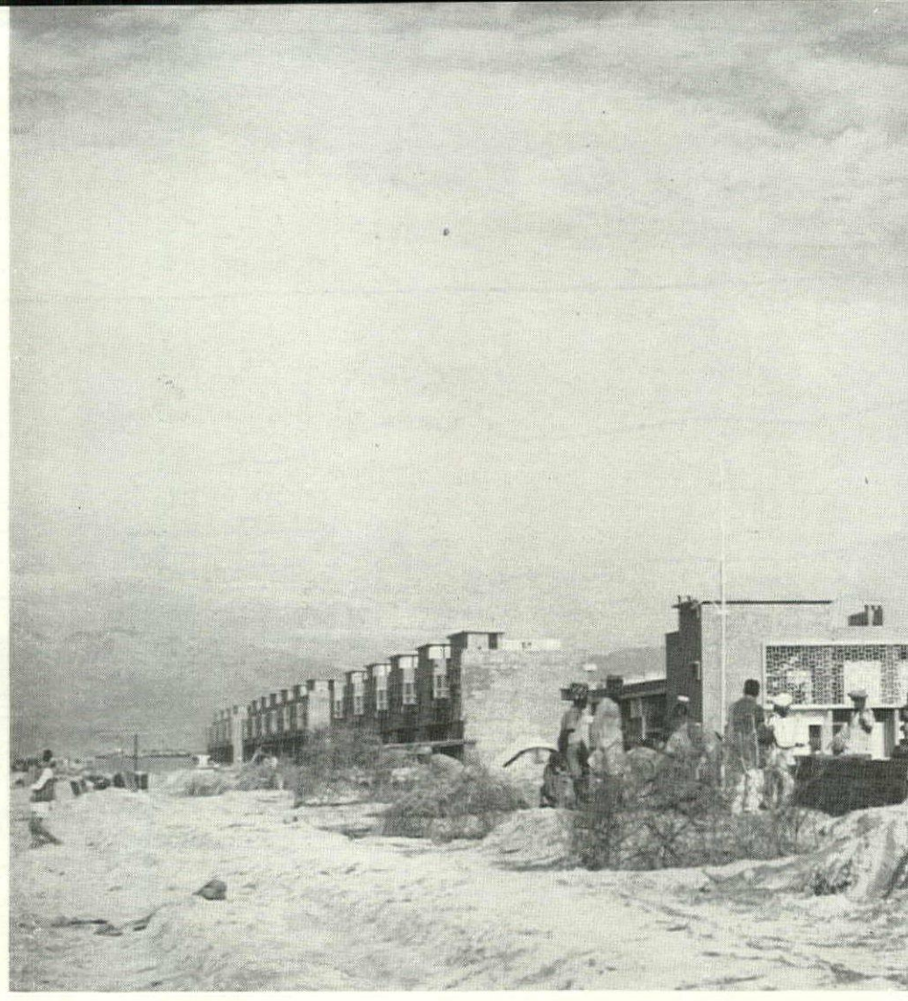
Says Corbu: "The materials of city planning are sky, space, trees, steel and cement, in this order and in this hierarchy. . . . No pains have been spared to make Chandigarh the world's most modern city. Its unique road system restores to the pedestrian the dignity and peace of mind of which the modern city has deprived him, and at the same time permits automobiles to run at the fastest speeds."

"The symphonic problem of climate"

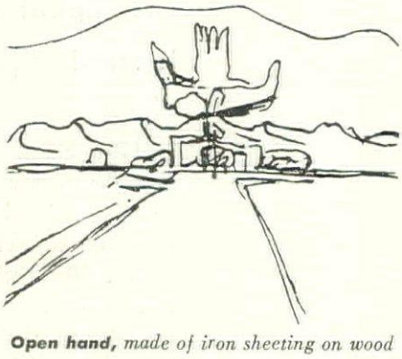
To meet the Indian climate—ten months of burning sunshine and overwhelming heat with two months of torrential rain—Corbu and his associates are putting concrete parasols over the large buildings, shading them without inhibiting air movement. In monsoon time the parasol becomes an umbrella.

The smaller houses of Chandigarh cannot afford these parasols, but are completely equipped with concrete louvers, "sunbreakers."

"The symphonic problem of climate," says Corbu, "has not been understood. Modern architecture, foraging through manuals and magazines from all over the world, blindly absorbs French, American, Indian, German, English or Scandinavian discoveries and shapes. Confronted with this inconsistency, we felt the need for a *climatic* screen, and we have created it."



"40 miles of roads, with no buildings facing them"



Open hand, *made of iron sheeting on wood and balanced to turn with wind, will be symbolic monument overlooking city.*

Collaborators *are Pierre Jeanneret (left, face hidden), Maxwell Fry (next facing camera), Corbu, Jane Drew. Fry and Drew are husband and wife; Jeanneret and Corbu, cousins and off-and-on associates.*

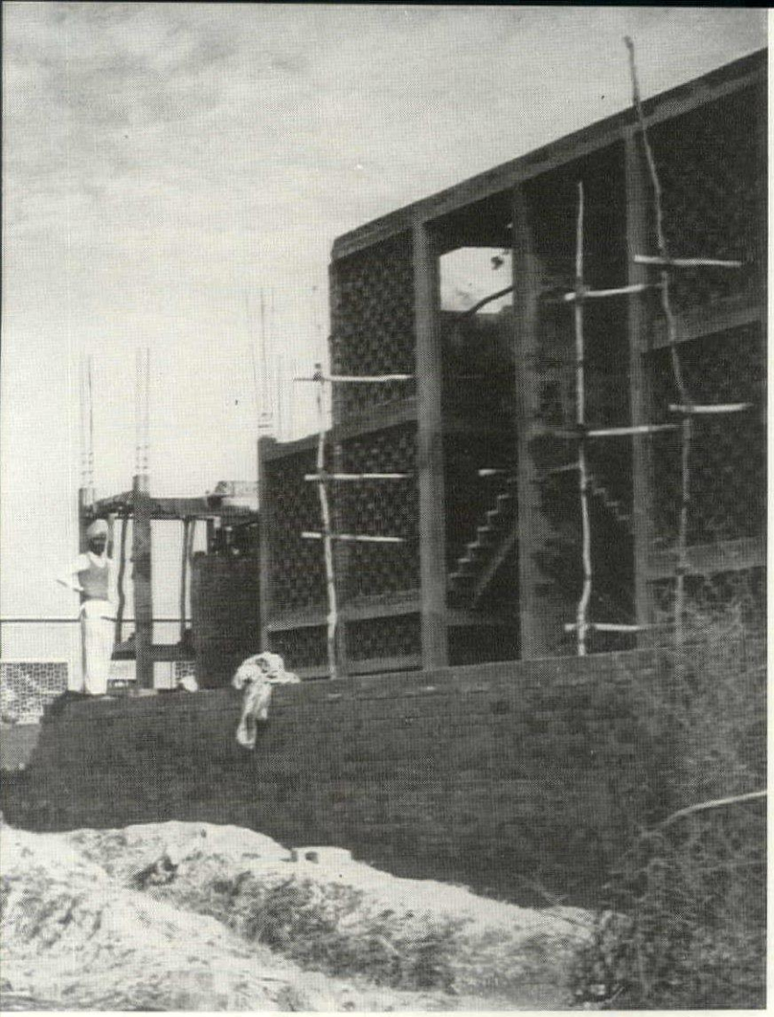


Jean Lyons

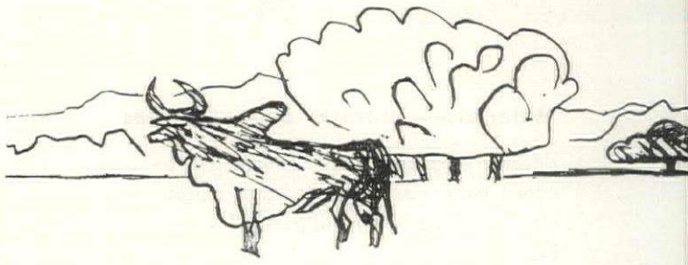
Chandigarh's site, *picked from the air, is between two rivers which have water in them only two months of the year. Running down the middle of the capital is the deep eroded gully of another nearly dry river. Around this earth slash, which will be landscaped, the planners are setting a network of roads which simultaneously will speed fast traffic and protect pedestrians. Something to remember in considering these roads: there will be few privately owned automobiles. The roads:*

1. *Fast through roads to airport and other cities.*
2. *Arterial roads for city-wide traffic, sunken as deep as 14'.*
3. *Fast traffic roads, automobiles only, no pedestrians or cyclists.*
4. *Bazaar streets for mixed slow traffic, no cars.*
5. *Neighborhood access roads. Slow traffic separated between automobiles, pedestrians, cyclists.*
6. *Intimate roads to houses, no cars.*
7. *Bicycle trails, pathways.*

Capitol plan. *Surmounting the city will be official buildings, governor's residence. At ground level are shaded pedestrian paths; 14' below are fast motor roads, dug into the ground.*

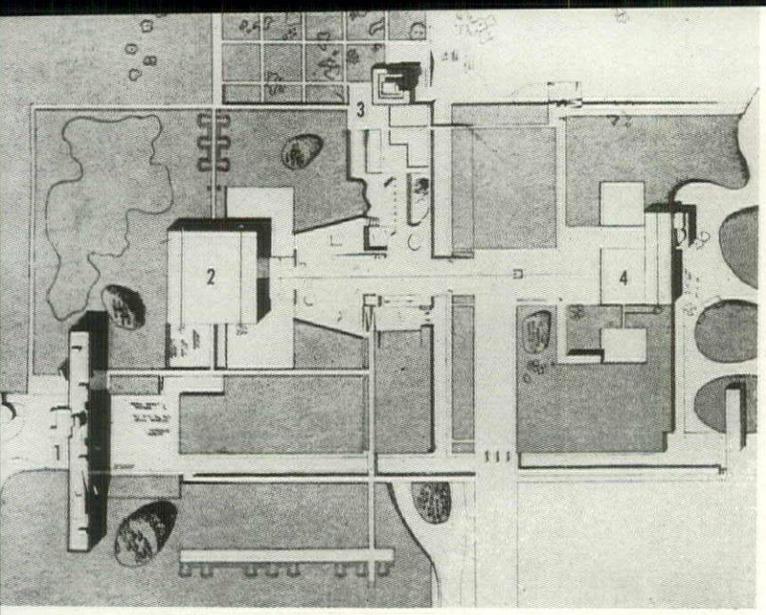


Residential quarters *for government employees rise on the dusty Indian plain. Grille visible on building near center of photo is one of the "sunbreakers" with which all houses are provided. Below, a Corbu sketch.*

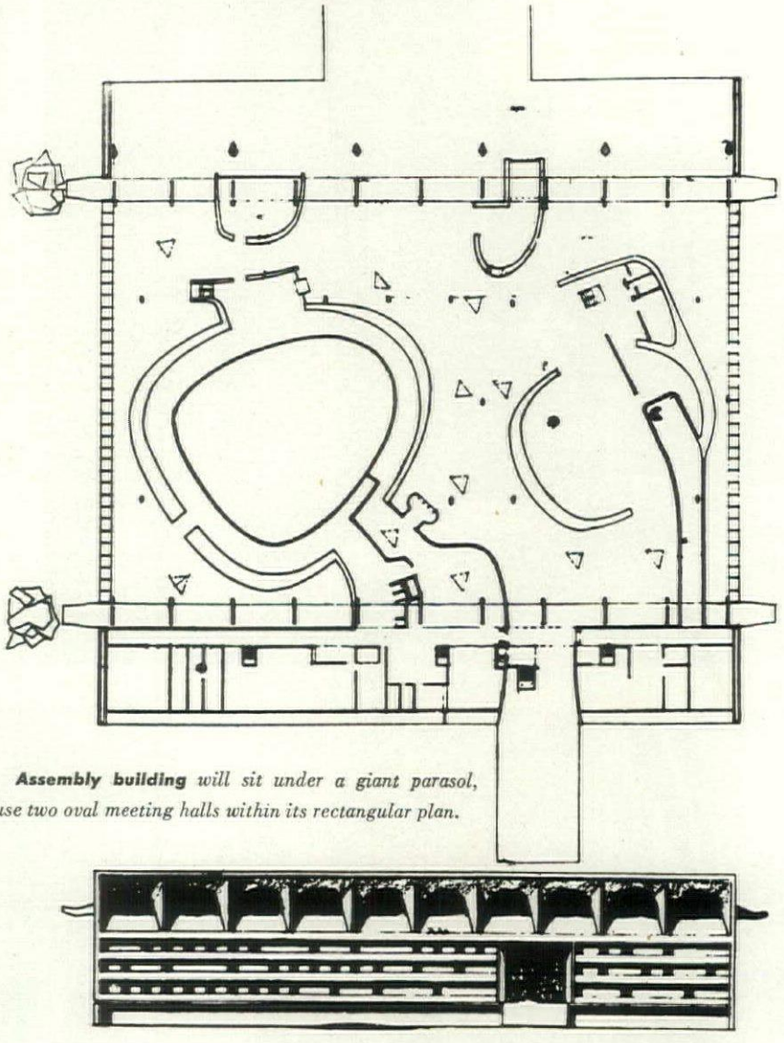


1 *Capitol,* **2** *university,* **3** *railway,* **4** *main commercial center,* **5** *town hall,* **6** *engineering college,* **7** *public library,* **8** *museum,* **9** *hospital,* **10** *maternity hospital,* **11** *sarai,* **12** *theater,* **13** *polytechnic institute,* **14** *industrial area.*





Capitol group *includes secretariat* **1,** *assembly* **2,** *governor's palace* **3,** *and high court* **4.** *Says Corbu: "No idea taken from folklore or art history can be allowed weight in an enterprise where the buildings are constructed in mass concrete braced occasionally by thin membranes of reinforced concrete."*



2. Assembly building *will sit under a giant parasol, house two oval meeting halls within its rectangular plan.*

Materials—contrasts and analogies

Because even steel for reinforcing is too scarce and expensive for any but the large buildings, the principal material in Chandigarh's houses is handmade brick. But seasoned wood is scarce too, so stressed concrete is used for shelves, etc.

Finishes are being left rough. While Corbu was visiting the site of the high court building under construction last summer, an Indian engineer pointed to the uneven surface of the concrete wall and suggested that it should be polished. Corbu took hold of a passing goat and said, "Look at this creation of God. Some of its hairs are white, others brown, some muddy. The very rough surface of this concrete is its beauty."

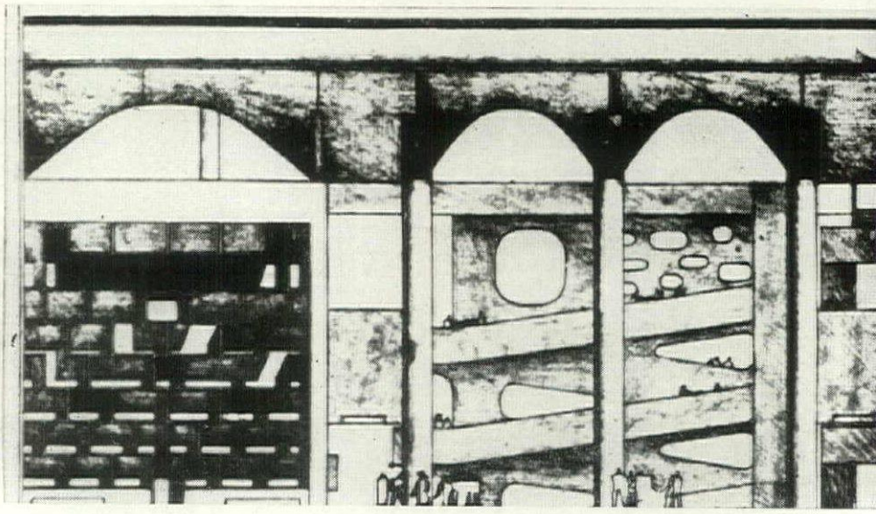
His more intellectual appraisal: "By an eloquent classification of working functions and materials; by the use of contrasts and analogies, of harshness and softness, of sharp and blunted lines, I have been able to create an architecture full of variety, made of rough concrete blocks (I propose the phrase: *the splendor of rough concrete*) and of thin layers of concrete 5 to 6 cm. thick, which are either simple or twisted in form. The whole is whitewashed inside and out, relieved by the violent polychromy of the fabrics which will serve as curtains. They alone will supply the thunder of color so necessary to set off the whitewash and the concrete."

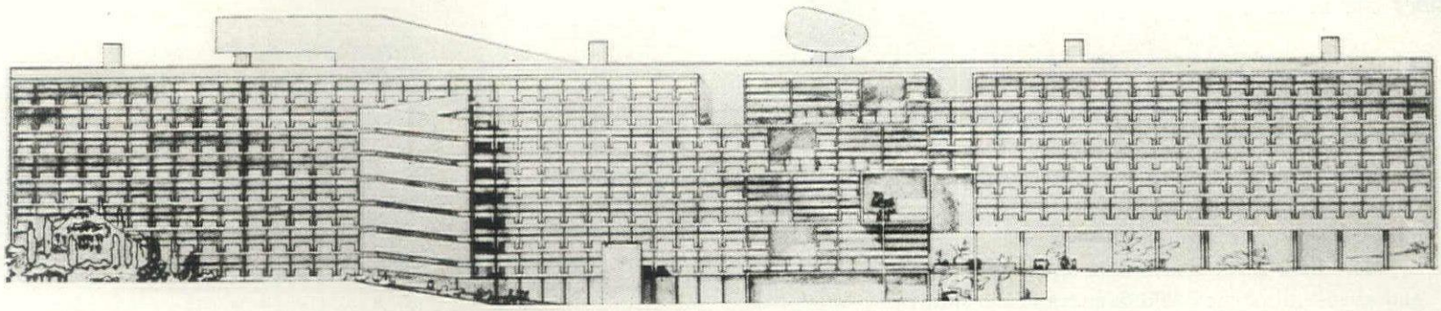
Chandigarh—point of progress

Asked for an on-the-spot description of what is going on in Chandigarh, Correspondent Achal Rangaswami reported:

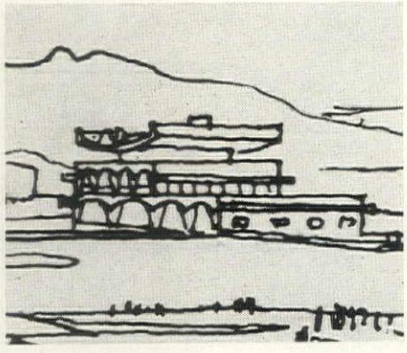
"The new capital is the scene of intense activity. Thirty thousand workers—men wearing dhotis and women clad in multicolored saris—work seven days a week. Machinery is limited to a few bulldozers and concrete mixers. Women pour liquid concrete in wooden molds. After setting, a slab is removed and carried by hand to the house rising nearby. Bricks are carried from trucks to building sites in baskets delicately balanced on the heads of erect women. Boys carry water in big leather bags of buffalo hide. Hundreds of men are busy smashing huge boulders into gravel with hammers. There

"The esthetics which arise from this will be new"

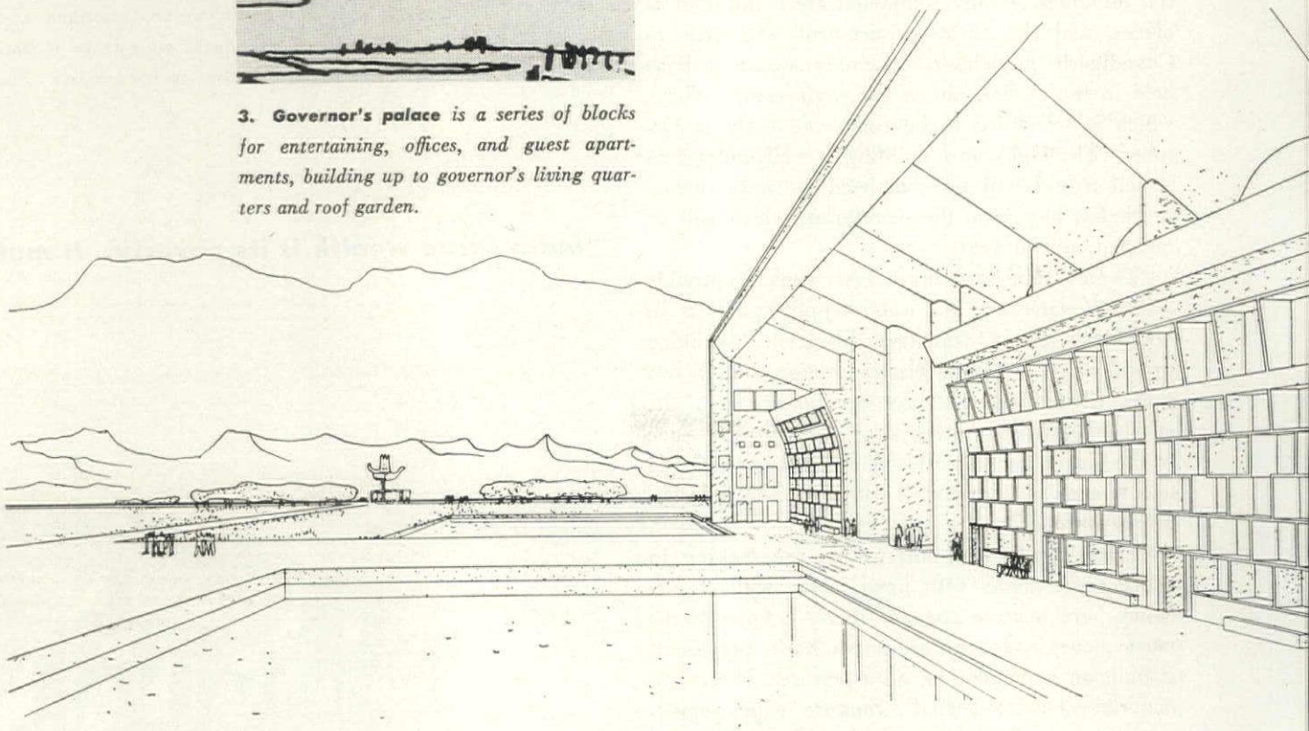




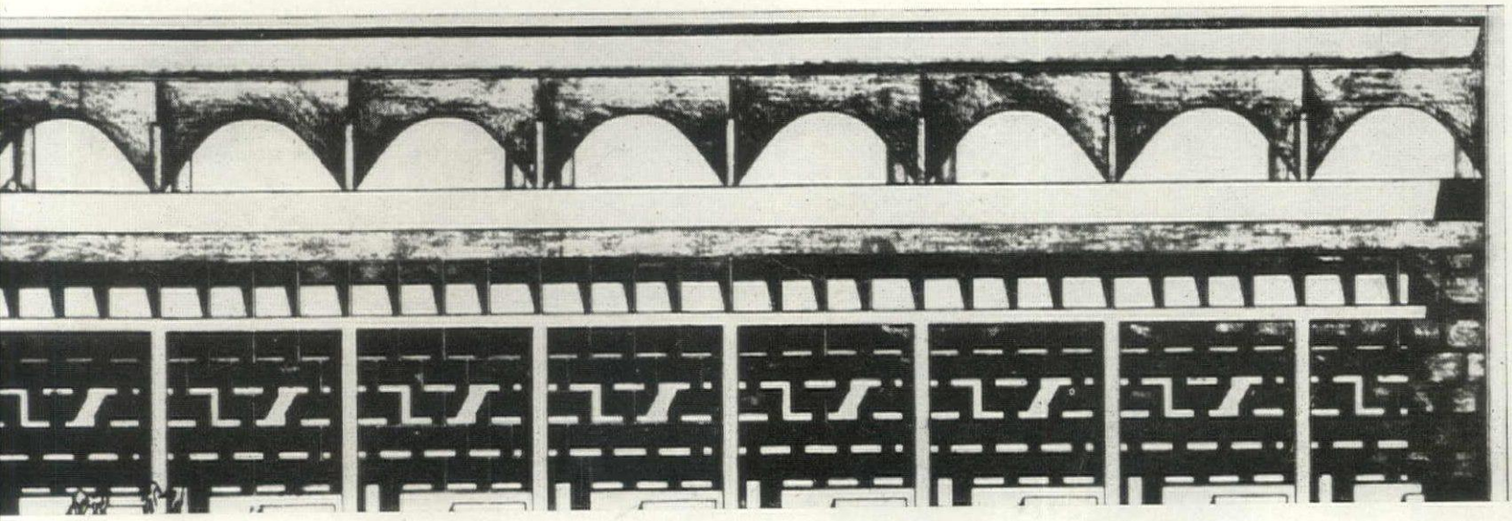
1. Secretariat *is 831'-9" long, 126' high, 78'-6" wide (all based on Corbu's modulor) and stands on concrete legs. Ramps run up from the three-story main entrance to eighth floor, for easy egress by 3,000 employees at day's end. On the roof are a garden and an egg-shaped concrete water tank.*



3. Governor's palace *is a series of blocks for entertaining, offices, and guest apartments, building up to governor's living quarters and roof garden.*



4. High court building *(above and below) houses eight large judicial chambers, is 70' high, with an enormous winglike parasol roof and a large doorless entrance.*



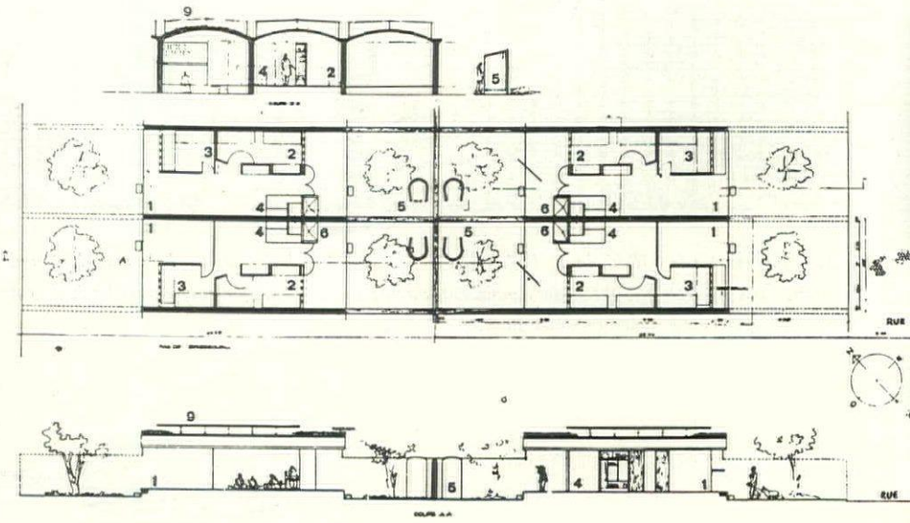
are some road machines, but molten coal tar is poured and spread on the roads by men who wrap their hands and feet in jute sacking to protect them from being scalded. Roads are scooped out by bulldozers, but donkeys remove the mud to artificial hillocks being raised nearby.

"More than 1,000 houses have already been built and almost all of the 3,208 quarters being built by the Punjab government to house its servants are expected to be completed this winter. The main road system in the residential areas has been built and is in use. In the capital complex bulldozers have begun creating the sunken roadway system. Housebuilding is going on in ten sectors and completed in four. Work in others will start soon. These sectors consist mainly of plots sold to private citizens who will build their own homes according to designs approved by Corbusier and his associates.

"A half-dozen departments of the Punjab government are functioning now in Chandigarh. Residential buildings already completed are being used as offices, and the entire government will shift to Chandigarh this winter. Assembly sessions will be held in the auditorium of the engineering college, which is scheduled to be completed early in October. The high court building is well under construction and will be completed by next spring. Work has begun on the secretariat, which will be finished in two years.

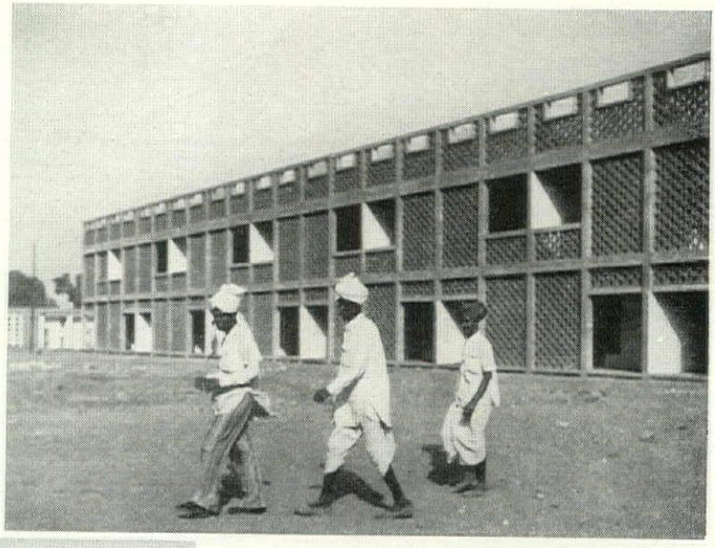
"Twenty tube wells have been sunk to provide drinking water and the water-supply system is in operation. So is drainage. Electricity is being provided by a thermal electric station, but in two years Chandigarh will get its power from the nearby Bhakra Nangal hydroelectric project—one of the biggest in the world. A railroad line is being laid to connect Chandigarh with the existing Delhi-Simla railroad."

Corbu's progress report: "We are making in India great things with hand labor, without machines; architecture abounds there, it flows as the music flows in Johann Sebastian Bach, because it is built on a foundation, on a texture. There is a material and intellectual armature which makes everything develop in dazzling fashion, smiling and radiant. . . . Money has nothing to do with a man of feeling. It is a good thing for an architect to have little money. . . ."

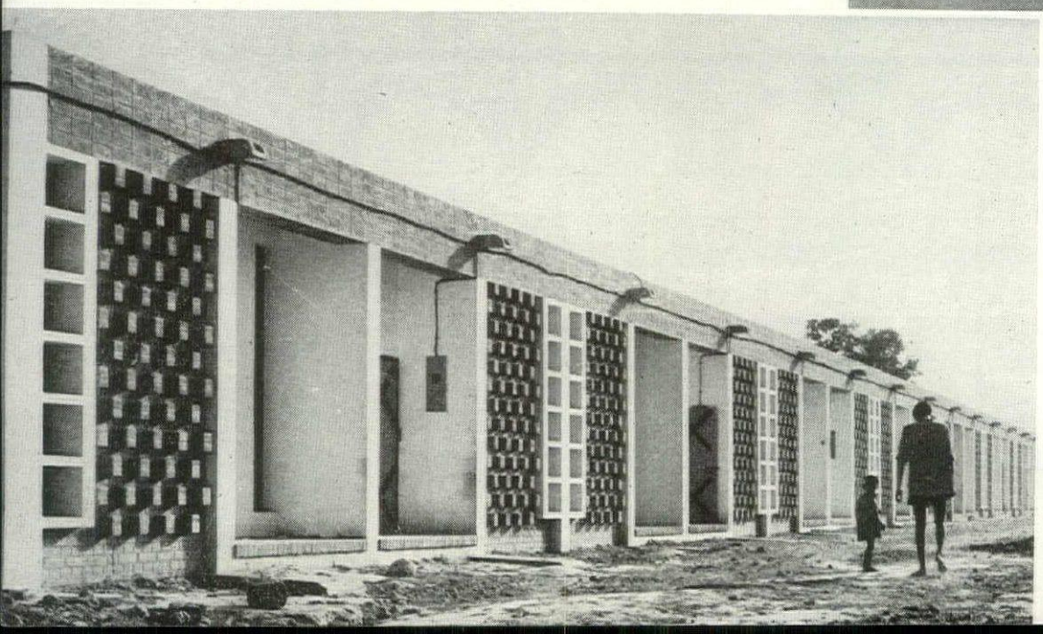


Peon's house *by Corbu, Jeanneret, Fry and Drew covers 1,200 sq. ft., including its garden and share of the road. A row house, of two rooms plus kitchen, bathroom, lavatory, veranda and court, it represents luxury to low-caste Indians although it is of most rudimentary construction. No motor traffic is allowed on these roads. There are 12 other types of house in Chandigarh to fit the government workers' various salary brackets. This one costs $620 to build.*

"India's true wealth is its poverty. It makes wonders succeed"



Government clerks' apartments, *two stories high, were designed by Jeanneret, are built of red brick and concrete slabs, have screened verandas.*



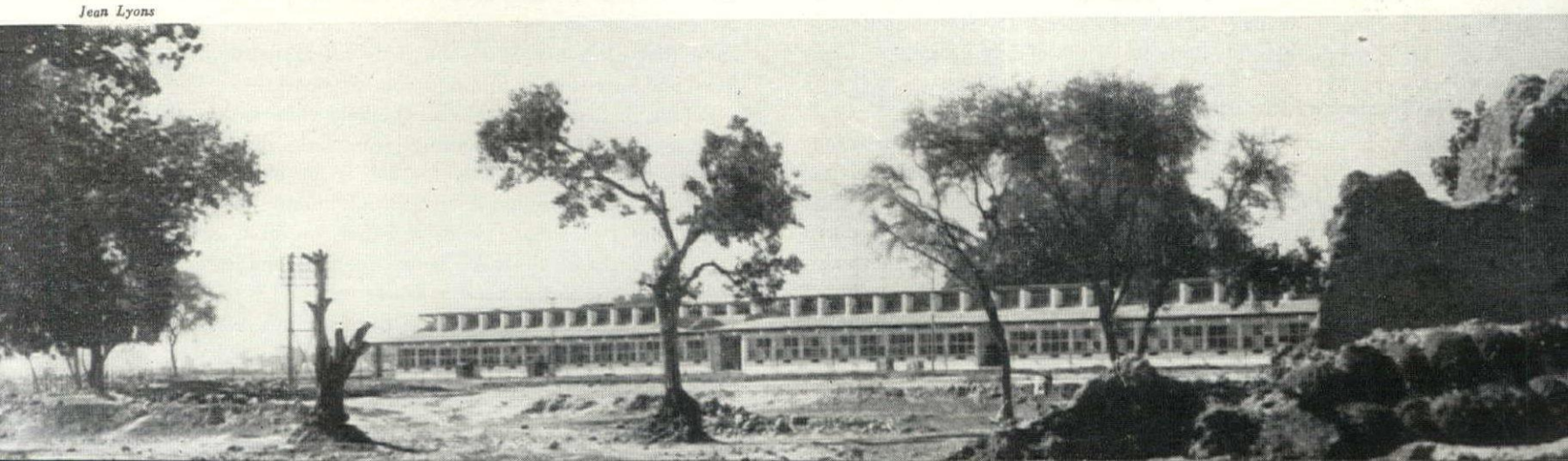
Cheapest houses *for government employees are built row style, with facades featuring patterns of brick studs. This also is a Jeanneret design.*

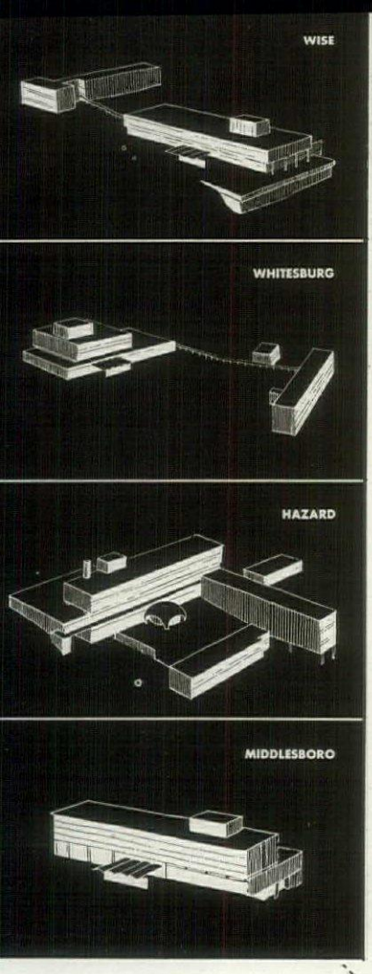


Typical multistory building *of brick takes shape beyond parabolic arch of rough stone masonry*

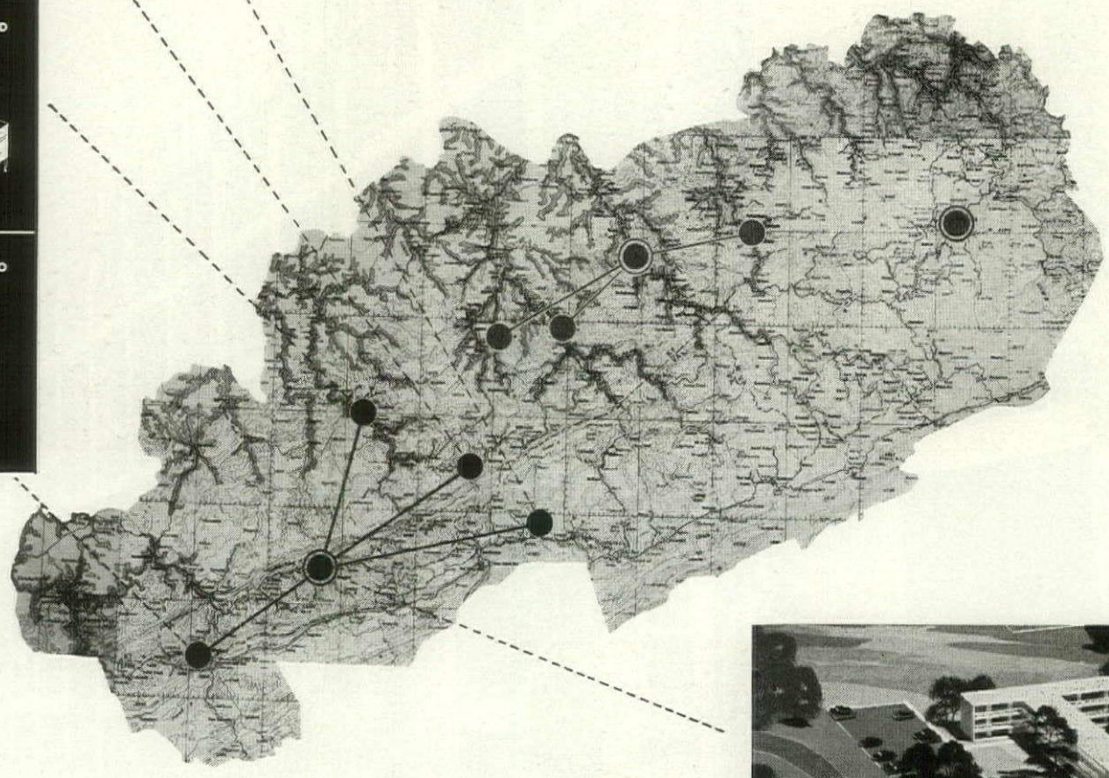
School building *(Jeanneret) is brick, stone, precast concrete slabs. Corbu's "modulor" dimensions govern all designs*

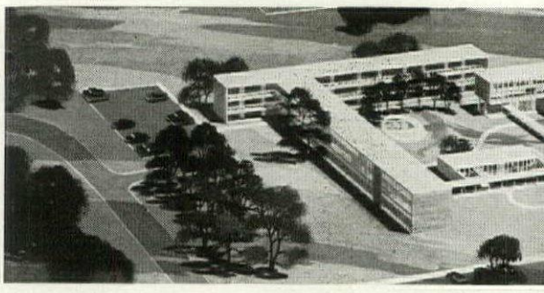
Jean Lyons





Hospital chain: *The hospital group presented on these pages—central hospital and four satellite community hospitals, all by Architects Sherlock, Smith & Adams—is part of a ten-hospital coordinated system now under construction in the West Virginia–Kentucky mountain mining region for beneficiaries of the United Mine Workers' welfare fund. Last month* FORUM *described the over-all planning and techniques behind this remarkable regional plan, described construction and presented the centralized service center. The November* FORUM *will present other hospitals in this system by Architect Isadore Rosenfield and the Office of York & Sawyer.*





These five hospitals in the United Mine Workers' chain will be easy to work with and easy to look at

In other words . . . these hospitals are Architecture

The immediately sensational feature of these hospitals is their internal supply system, presented overleaf.

Unlike many sensational things, this feature deserves all the attention it will draw because the organizational concept behind it—originated by Senior Administrator Gordon Friesen—and the architectural interpretation of this concept are both truly creative contributions to hospital planning.

But something else about these hospitals—something subtler and perhaps even more important—merits the closest study.

They are the absolute opposite of the bumpy hospital.

The bump and the squeeze

Bumpy hospitals are all too familiar: they start with a strong backbone that peters out into visually irrational setbacks and boxes. It *seems* as if unrelated bumps ought to have some nifty functional purpose. But bumpy hospitals are almost always disappointing; the bumps are usually makeshift ways of shortening corridors or housing departments that "didn't fit in anywhere."

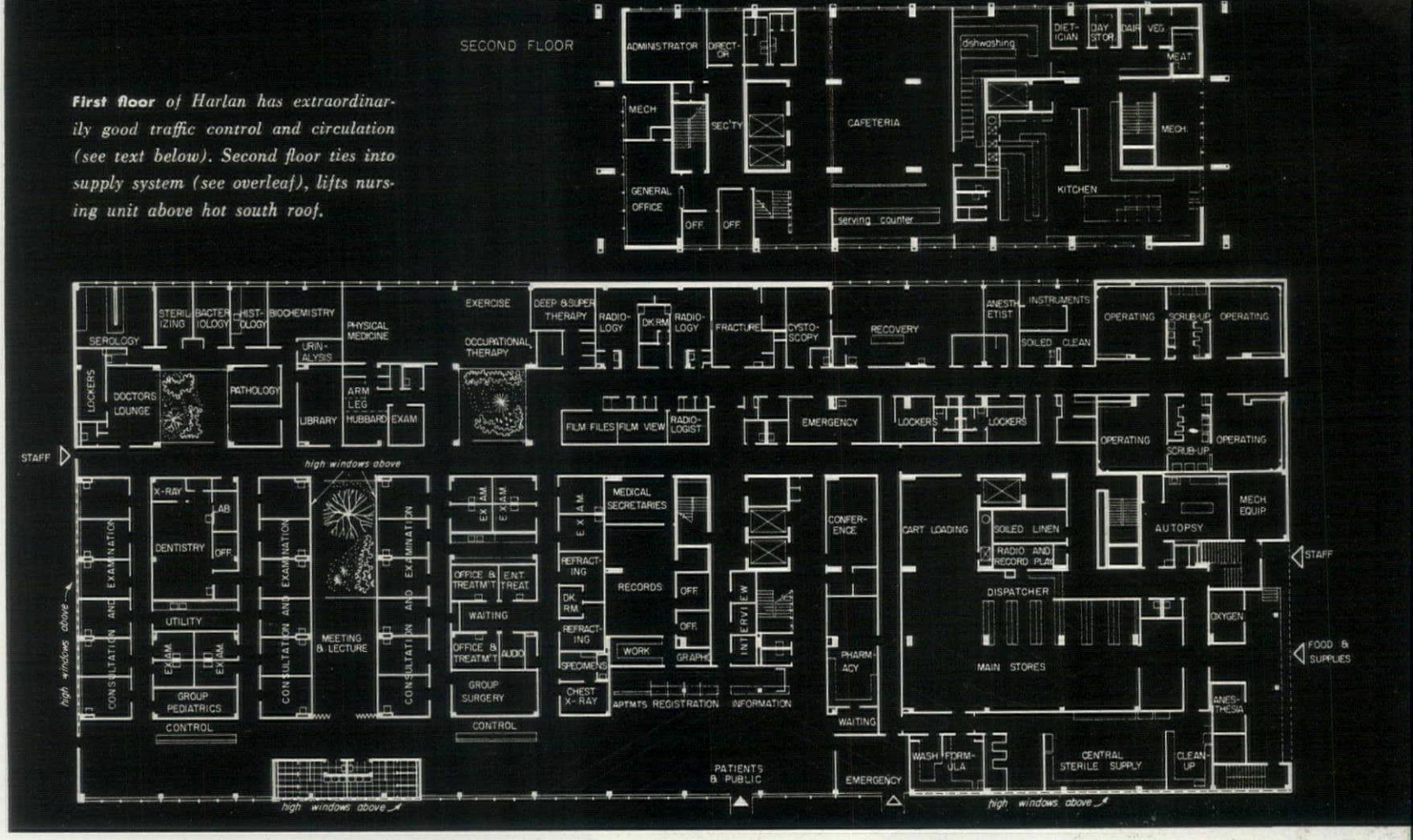
To be fair, there is something worse than the bumpy hospital: the stuffed hospital whose visually sane forms conceal functional compromises right and left.

But these five Sherlock, Smith & Adams hospitals are neither bumped nor stuffed. They are Architecture, a rare and difficult thing for a good hospital to be.

Now, these architects had all the troubles—including a tight budget—that any hospital designer has. Maybe more, because the clients wanted all kinds of new things. For instance, they wanted the emergency entrance to be at the main entrance because they know that when people are hurried or frightened they get confused and have trouble finding secondary doors.

Behind the basic excellence of the final plans is the outstanding client-architect-builder planning teamwork described in last month's FORUM. But added to that is an ingredient only the architects could supply: these are not bumpy hospitals because every time a plan outgrew its breeches, the architects reworked the whole scheme to make better internal and external sense, *to keep the two always hand in hand.*

Notice the variety among these five hospitals—single corridor,



***First floor** of Harlan has extraordinarily good traffic control and circulation (see text below). Second floor ties into supply system (see overleaf), lifts nursing unit above hot south roof.*



***Harlan central hospital** with nursing school and staff housing at left*

MEMORIAL HOSPITAL ASSN. OF KY., owner
(F. D. Mott, M.D., medical administrator
John Newdorp, M.D., deputy medical administrator
Gordon A. Friesen, senior hospital administrator
E. Todd Wheeler, consultant)
SHERLOCK, SMITH & ADAMS, architects
(design team: Richard J. Adams, partner-in-charge;
Sidney N. Wellborn, Edward H. Noakes, Charles M. Kelley,
Eugene T. Millsap, John Shaffer, W. H. Metcalf, J. L. Donofro)
JAMES A. EVANS, mechanical engineering
J. L. PHILLIPS, electrical engineering
LAWRENCE HALPRIN, landscape architect
J. A. JONES CONSTRUCTION CO., contractor

double corridor, square. Look at Harlan's seeming eccentricities—its second-floor kitchen and cafeteria, its main-floor storage.

Sherlock, Smith & Adams did not indulge in this variety to exhibit their virtuosity; each highly individualized plan is the solution to an individual problem.

Whitesburg, for instance (p. 154), with its special feature of nurses' substations, just would not go together sensibly without makeshifts or patching until the architects tried its square plan.

Hazard (p. 156) was panning out fine except that its basement floor was a killer. Something finally had to give. Look at the plan to see what the architects chose to squeeze outside the perimeter and how they made a virtue of the squeeze.

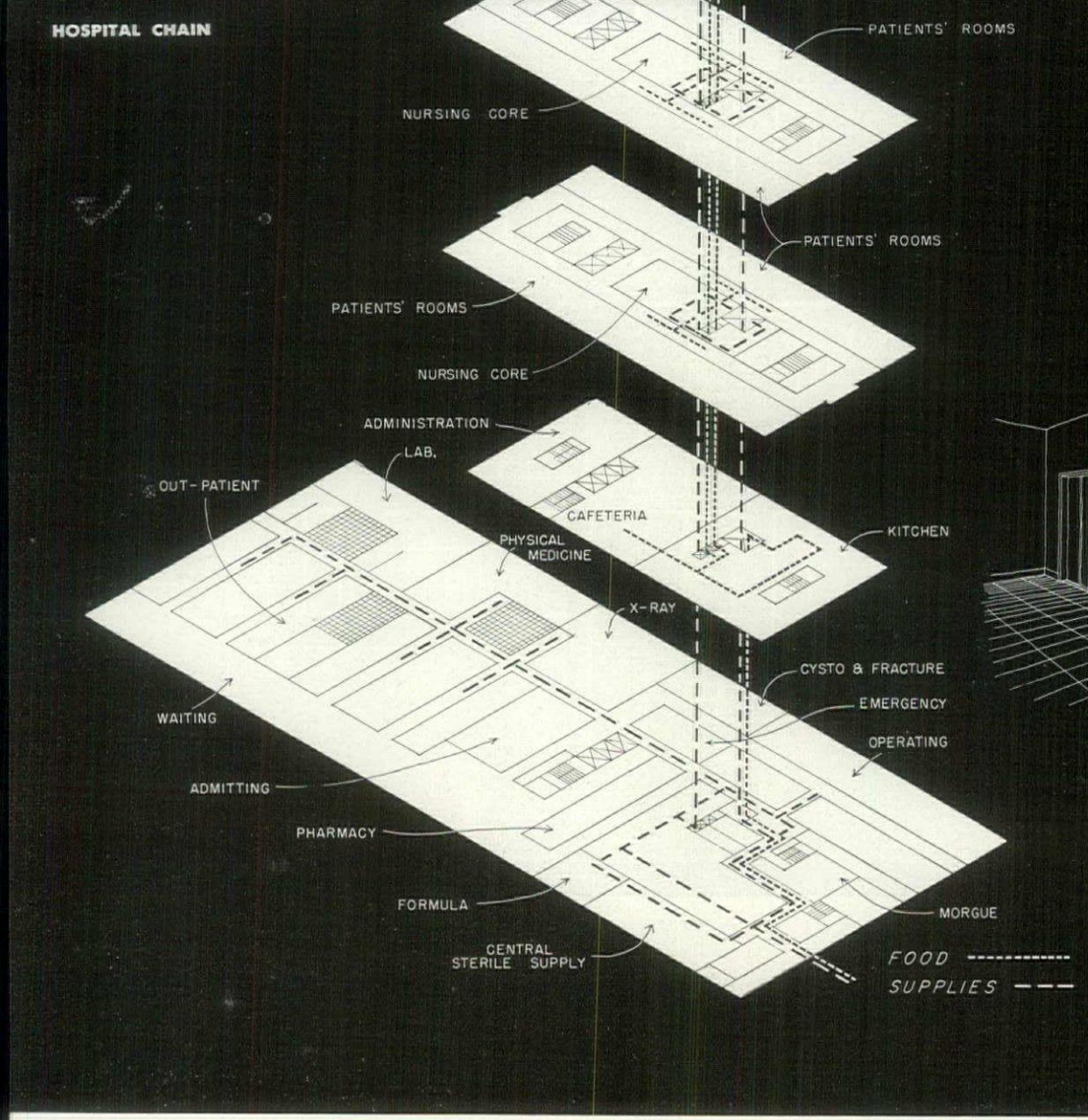
The pay-off

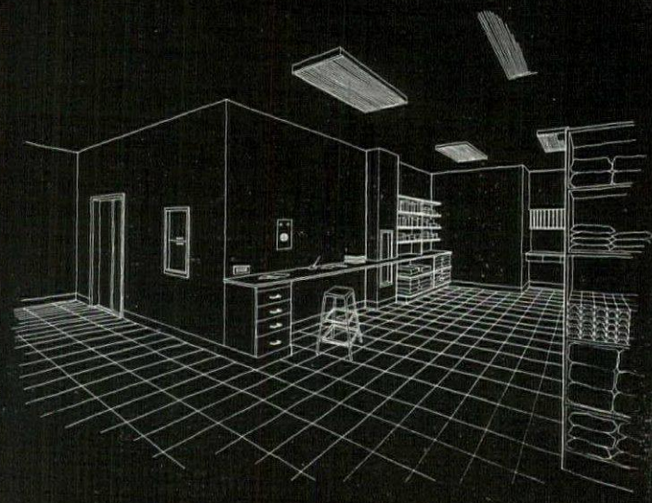
Should anyone doubt that this striving for harmonious expression was worth while, let him examine the plans, for they are its direct result. Look how beautifully the pieces fall into place.

Look at Harlan's first-floor plan for things like these:

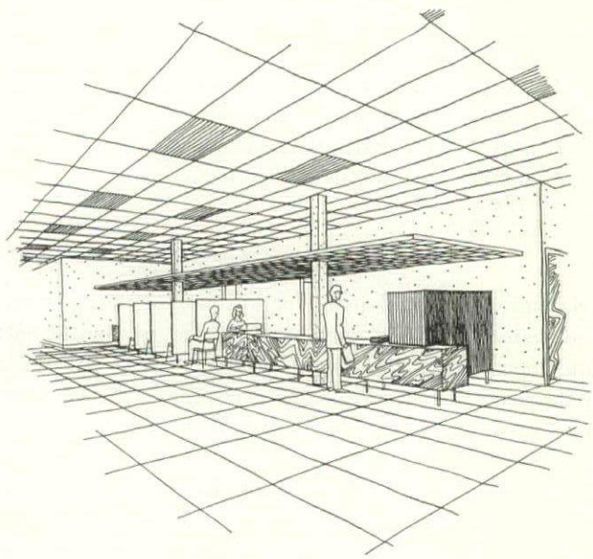
- the single entrance control point for visitors, admitting, emergency, outpatients, and the way all this traffic is combed out;
- the unique interviewing-admitting-records complex (see p. 157);
- the way the main entrance leads into emergency . . . and emergency into recovery and surgery . . . and surgery into radiology . . . and radiology into outpatient;
- the way the universal hospital argument about whether fracture and cystoscopy belong with surgery or radiology was settled;
- the uninstitutional waiting spaces (see also p. 157) the indoor-outdoor pediatrics waiting;
- the integration of lecture-movie-demonstration with waiting;
- the patly placed chest X-ray and specimen suite;
- the "central backbone" circulation with branching corridors;
- the casual grace with which courtyards serve as outdoor rooms.

In one respect the architects got an easy break. Because most patients will be beneficiaries of the Mine Workers' welfare fund, business offices could be separate from reception and Friesen did not care where the architect put administrators; he says a good administrator is seldom in his office anyhow.





Dispatch office *controls all storage and issue*



Admitting desk *(Harlan) controls all incoming traffic; emergency traffic is shielded from lobby by knee-to-shoulder screen. Screen not shown in sketch; see plan.*

Harlan data: *192 beds (expandable to 379); 111,400 sq. ft.*

Costs *on all hospitals in group are estimated to average $13,800 per bed, $22.65 per sq. ft.*

Shelves on wheels and the all-purpose dispatcher:

In these hospitals almost every storage shelf or cabinet is a lightweight, silent aluminum cart.

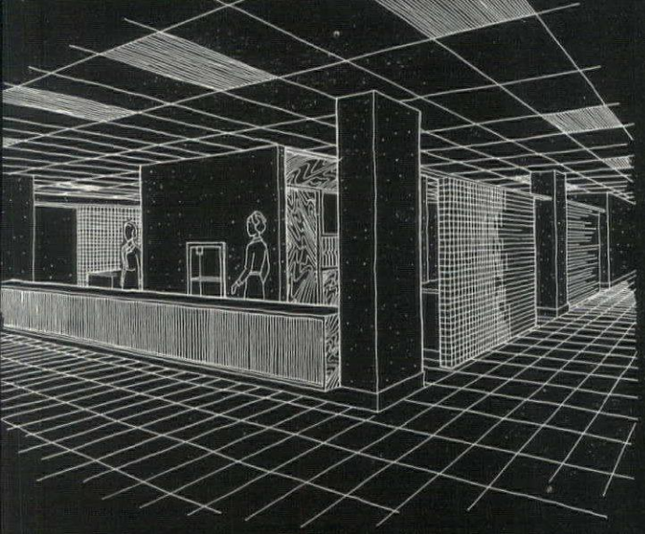
And all service departments simply prepare materials. A single dispatching office stores and issues everything, routine or emergency (other than food).

In the small hours of the night, dispatch men wheel away the carts from each clean utility room (see core plan, opp. p.), replace them with next day's supplies. From the soiled utility room they wheel away filled carts, replace them with empties.

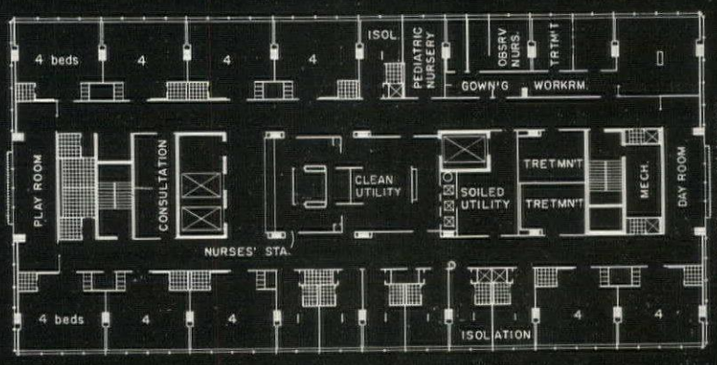
Through the vertical supply core, into the clean utility side, comes the food on a vertical tray conveyor. Down from the dirty utility side of the tray conveyor go the used trays.

Any time, day or night, a nurse's station wants a special item, it calls the dispatcher or kitchen on the intercom; up comes the item, usually by dumbwaiter. But every need that can possibly be anticipated will already be on the carts.

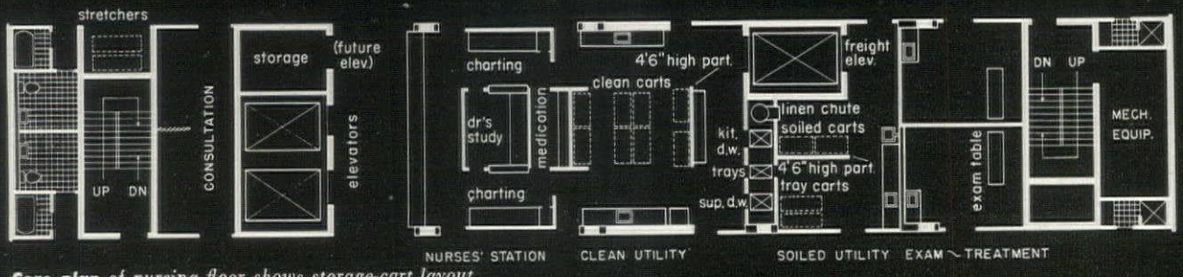
Look at the diagram—which shows the system as worked out at Harlan central hospital—to see how all supplies (whether standard stores or instruments sterilized in the hospital, linen or sterile packs from the service center described in last month's FORUM) feed to the dispatcher. Look at the plans of the other hospitals to see how the system works with ground-floor and nursing-floor plans different from those of Harlan. Note how the system works out in two-story Wise Hospital (p. 154) where the tray conveyor is omitted. This is no strait-jacketing system.



Nurses' station *is backed up by supply-utility core*

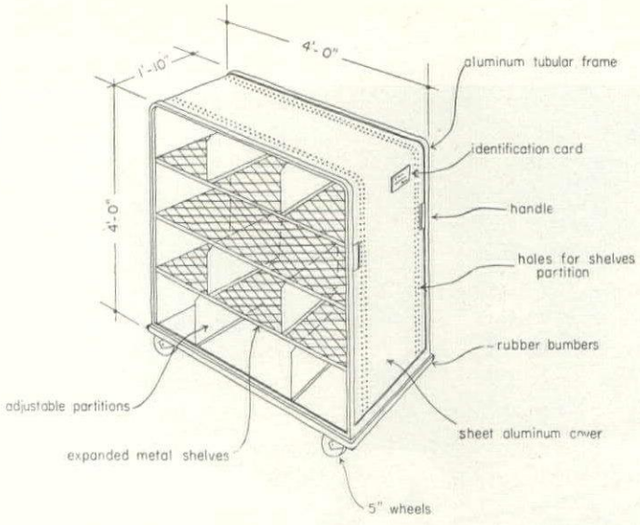


FIFTH FLOOR



Core plan *of nursing floor shows storage-cart layout*

a radically new labor-saving supply system



Supply carts *double as cabinets, save extra handling. Movable partitions and shelves permit basic cart (above) to be used for any type of nursing supplies or as soiled utility cabinet. Cart is welded aluminum.*

The detail, on which the supply system's smoothness really depends, is beautifully worked out.

For instance, the carts themselves (still in planning stage): basically they are identical but are equipped with interchangeable shelving and compartments. Here is what a clean utility room will get: (1) housekeeping carts, each with a full 24-hour complement for 15 patients (including linen, washed mop heads, bedside packs for new patients, laundry hampers, soap, etc.); (2) two sterile supply carts; (3) two nonsterile supply; (4) one drug cart; (5) one miscellaneous cart.

As a hedge for flexibility, the supply core has a letter-drop to the dispatcher. This is in case of a now-unforeseen need for requisitions on some items, or in case the hospitals ever wish to install a perpetual-inventory system; nurses or maids would then tear tags off items as used and drop them in the slot.

Special maintenance carts, equipped with folding ladder, tools and routine replacement parts like light bulbs and faucet washers will make regular rounds, eliminate most maintenance requests.

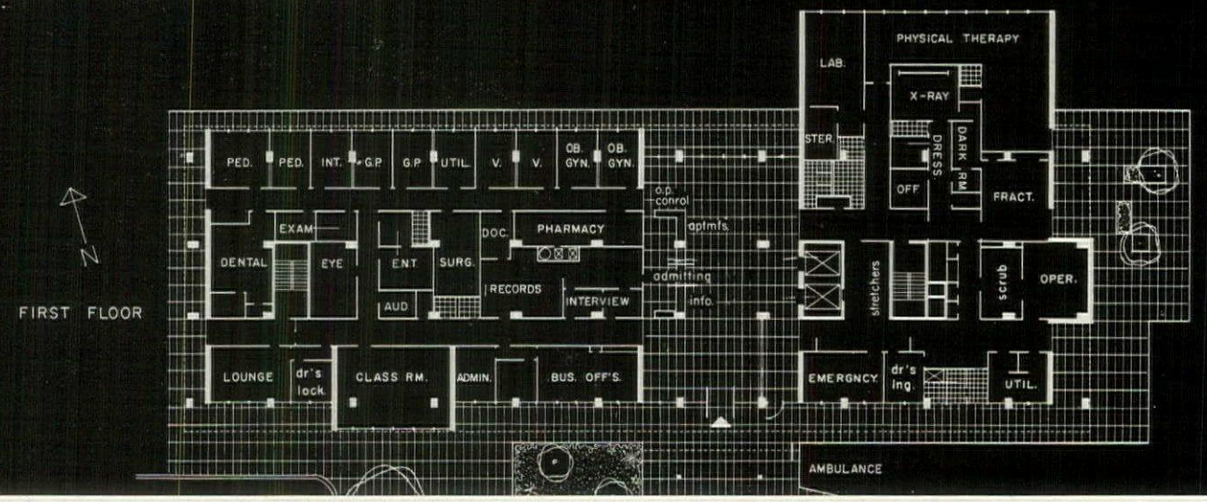
Specimens, slipped into containers that look like cutaway rubber hose, will travel by a brand-new nose-dialed pneumatic tube system (see New Products, AF, Aug. '53) to be installed in Harlan, Whitesburg and Hazard.

All these supply-system ideas are used in the other five hospitals of the regional system also (see map); carts for all ten hospitals were developed by Sherlock, Smith & Adams and Friesen.

As for the charting and administrative aspect of nurses' stations—that is a story in itself. It will be described, along with other hospitals in this coordinated system, in the November FORUM.

WISE sits on a cantilevered shelf

The smallest of the five hospitals illustrates especially well a point all have in common: respect for their sites. Wise's shelf preserves the hilltop feeling of a high and lovely orchard knoll. Staff housing climbs farther up the slope. Note another nicety: first-floor roof is on north side of nursing unit. Wise has 58 beds, 41,700 sq. ft., is expandable to 140 beds.

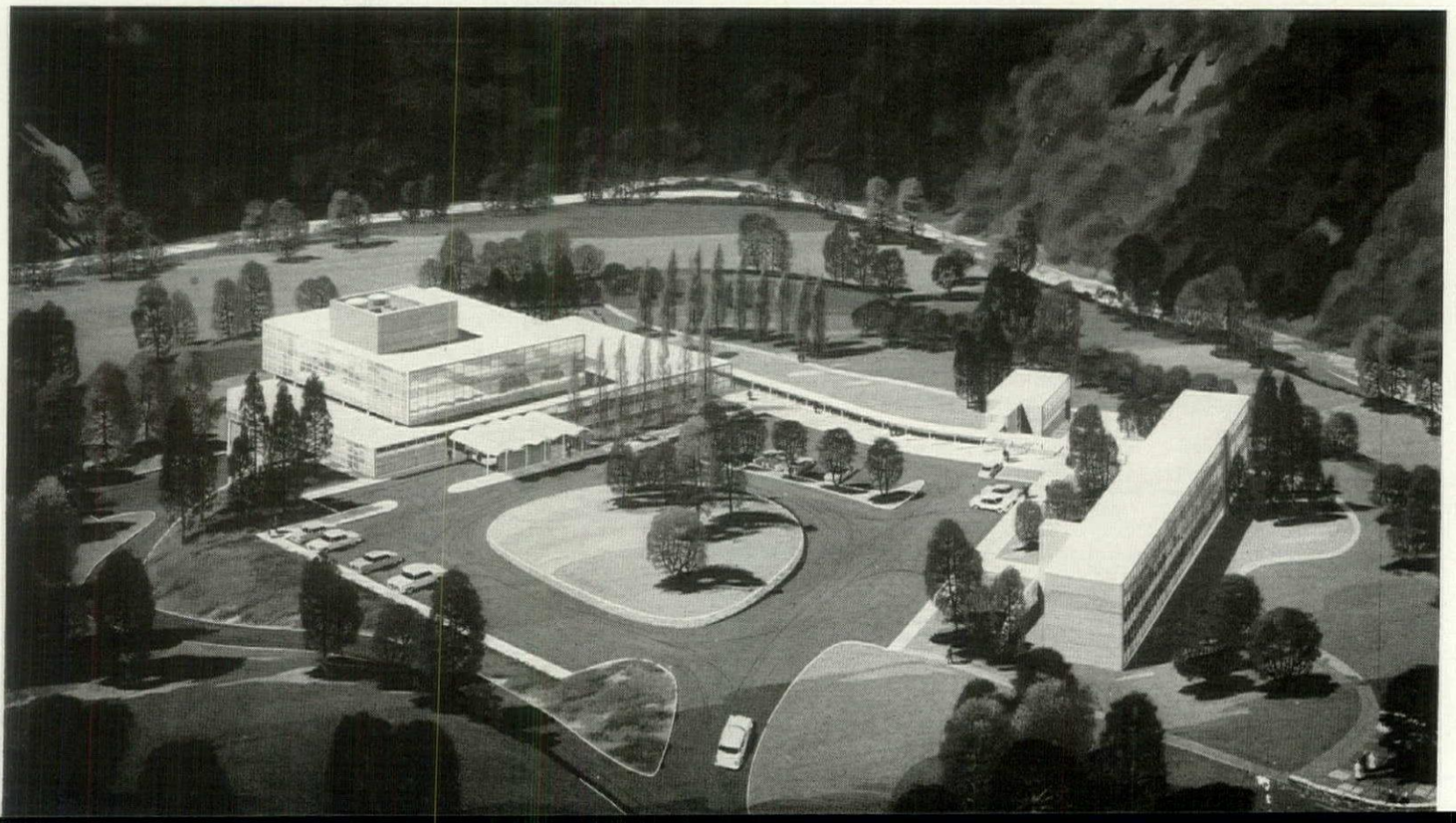


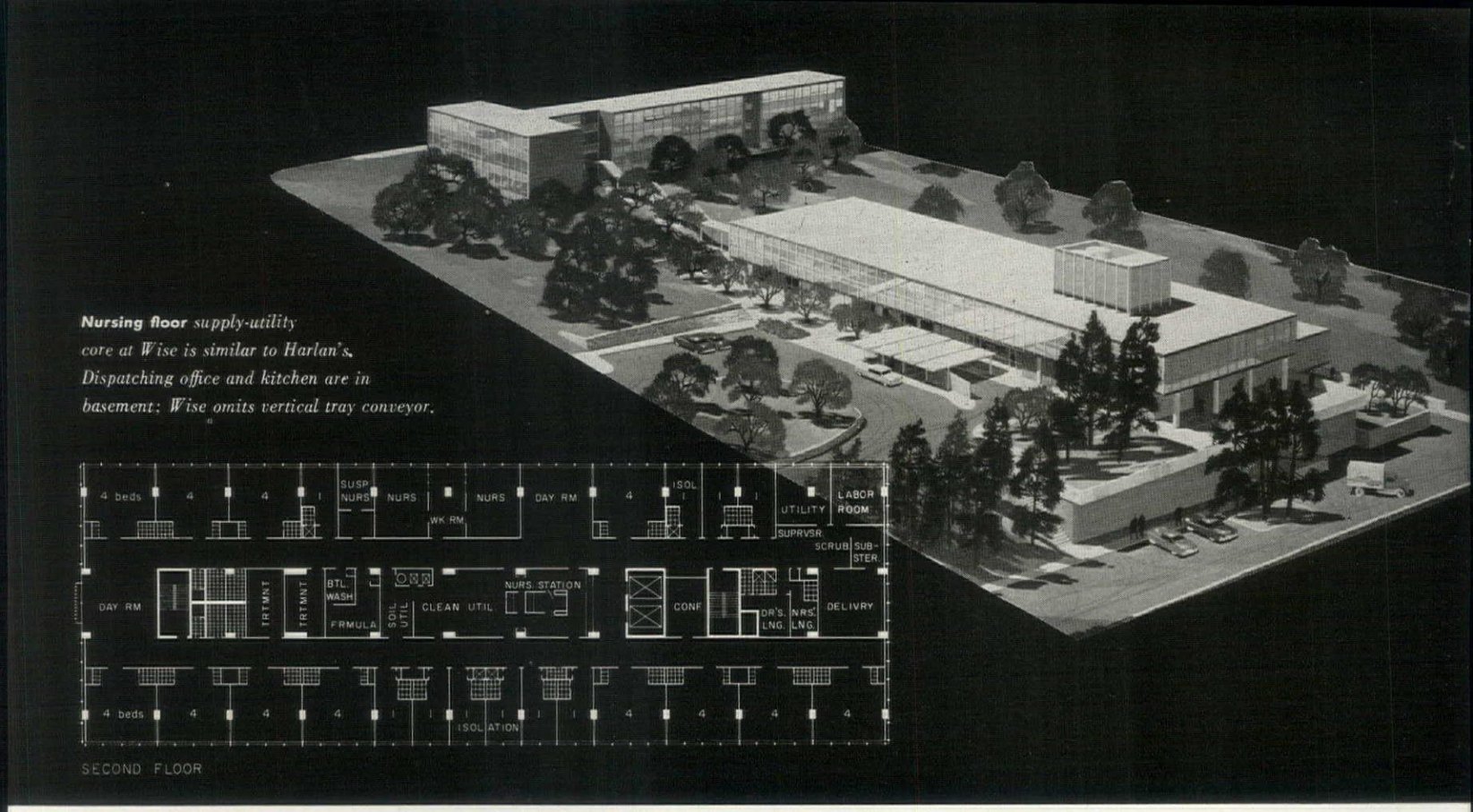
WHITESBURG has a square nursing unit

How to combine decentralized nursing with a single central supply-utility core? This plan is a neat solution. In addition to obvious step-savings, the scheme has flexibility; the load assigned to any substation can be easily shifted "like moving a figurative bookmark"; at night headquarters station can take the whole floor. The basement is noteworthy for circulation space economy. It is a transfer point for supplies to other hospitals (AF, Aug. '53), hence the large loading dock. Whitesburg has 92 beds (expandable to 120); 55,100 sq. ft.

Square plan *permits advantages of same central supply system as other four hospitals, combined with special requirement here for decentralized nursing. Note good placement of acute patients' single rooms, advantage taken of corners. A mountain is west sunshade after 3 P.M.; courtyard cuts west roof from beneath bedrooms. Climatology survey had shown site required air conditioning.*

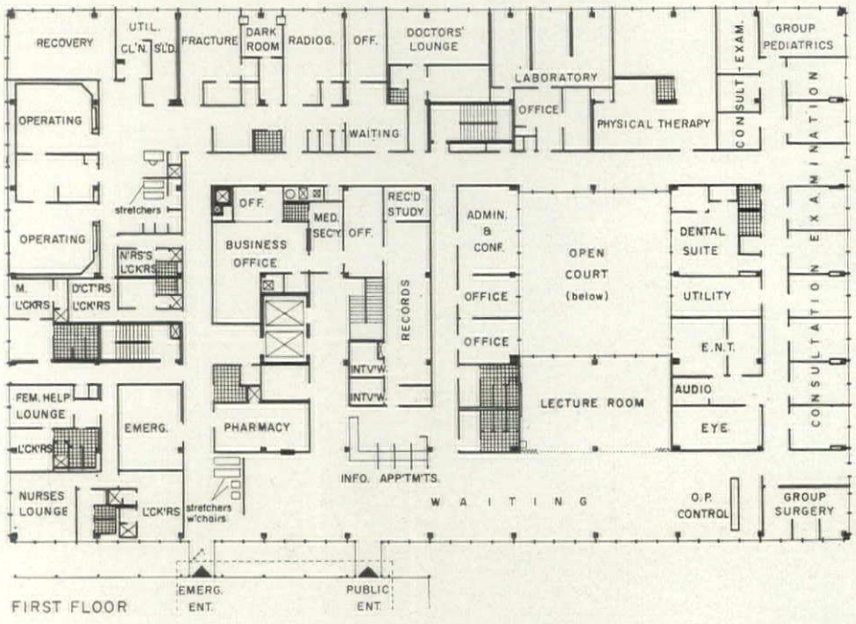
Whitesburg *community hospital with staff housing at right*



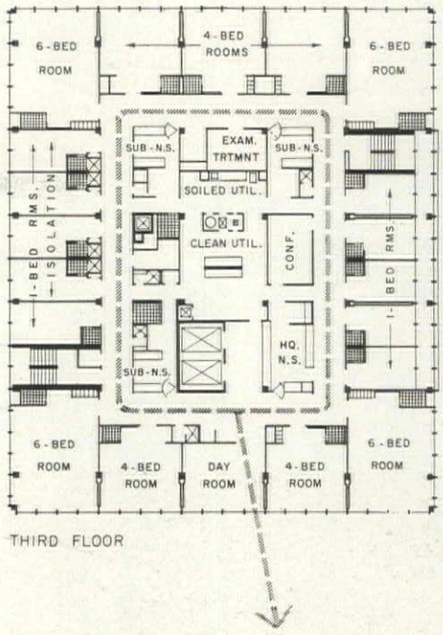


***Nursing floor** supply-utility core at Wise is similar to Harlan's. Dispatching office and kitchen are in basement; Wise omits vertical tray conveyor.*

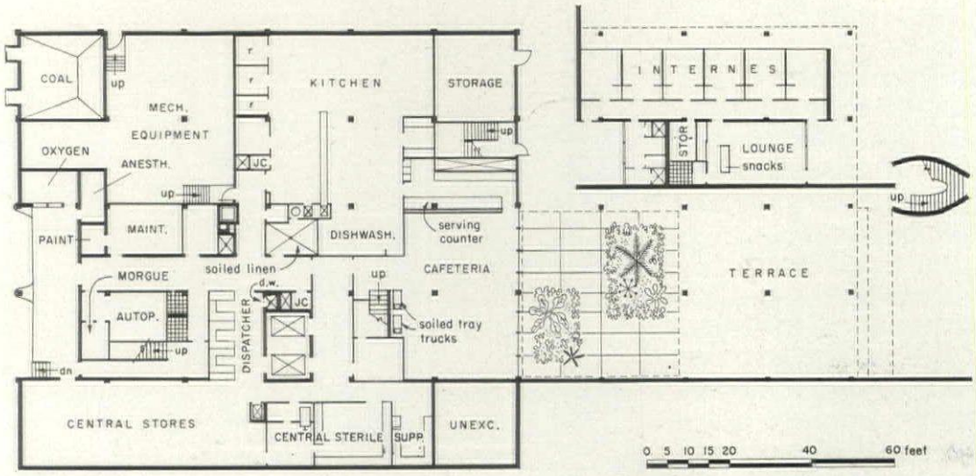
SECOND FLOOR



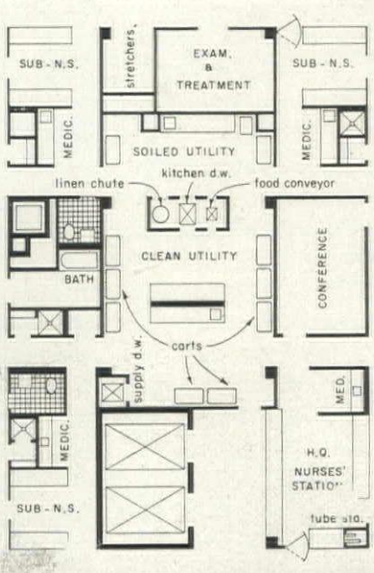
FIRST FLOOR



THIRD FLOOR

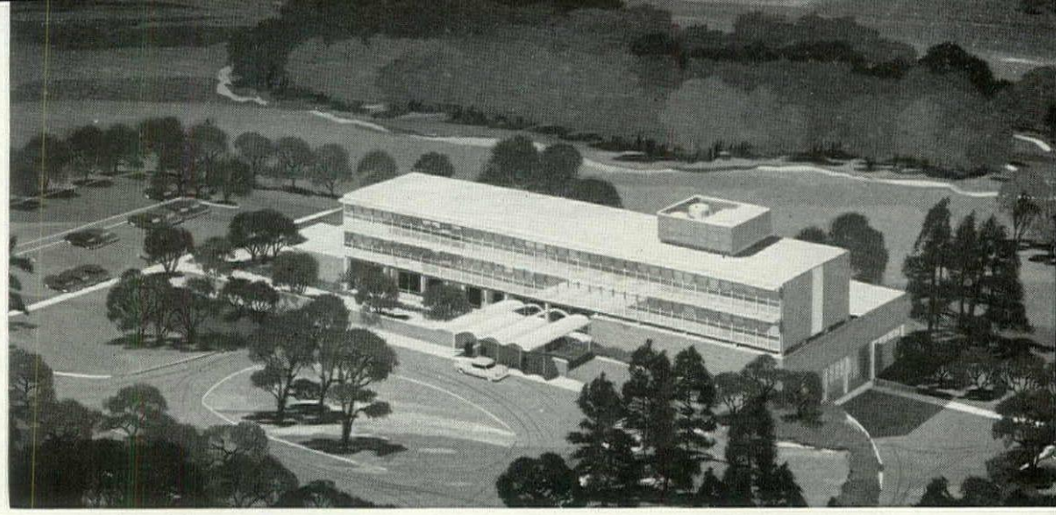


BASEMENT



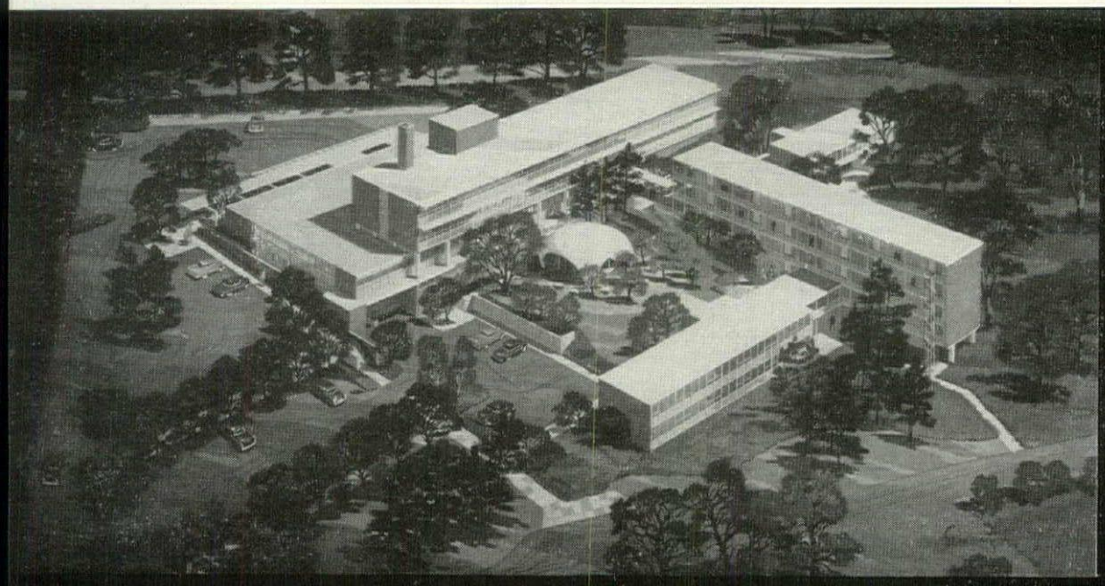
MIDDLESBORO

uses outside "patios"



This hospital's relatively long and narrow shape precluded courtyards, used so deftly in the other hospitals as patios. A similar pleasant, friendly atmosphere is achieved with perimeter terraces and lawns related to waiting spaces. The architects have used the outdoors as in good residential planning, still a rarity for hospitals. One public terrace is at the west end of the building; a larger one, interspersed with lawns, is at the north end of the lobby.

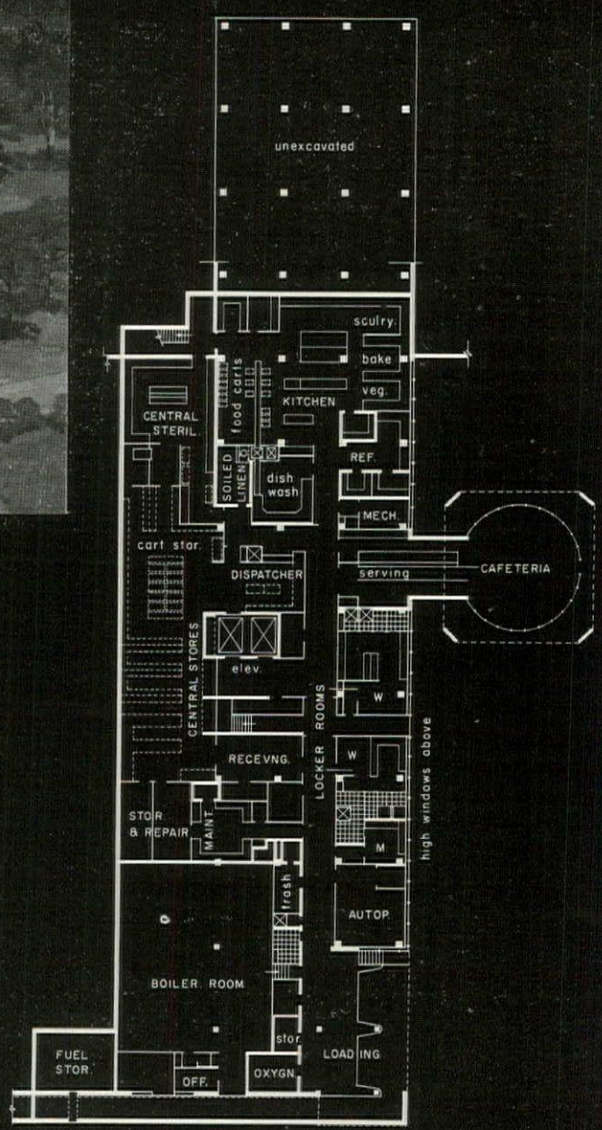
The nursing unit is similar to Hazard's. Middlesboro has 77 beds (29 on obstetrical floor, 48 on third floor), 50,700 sq. ft., is expandable to 125 beds.



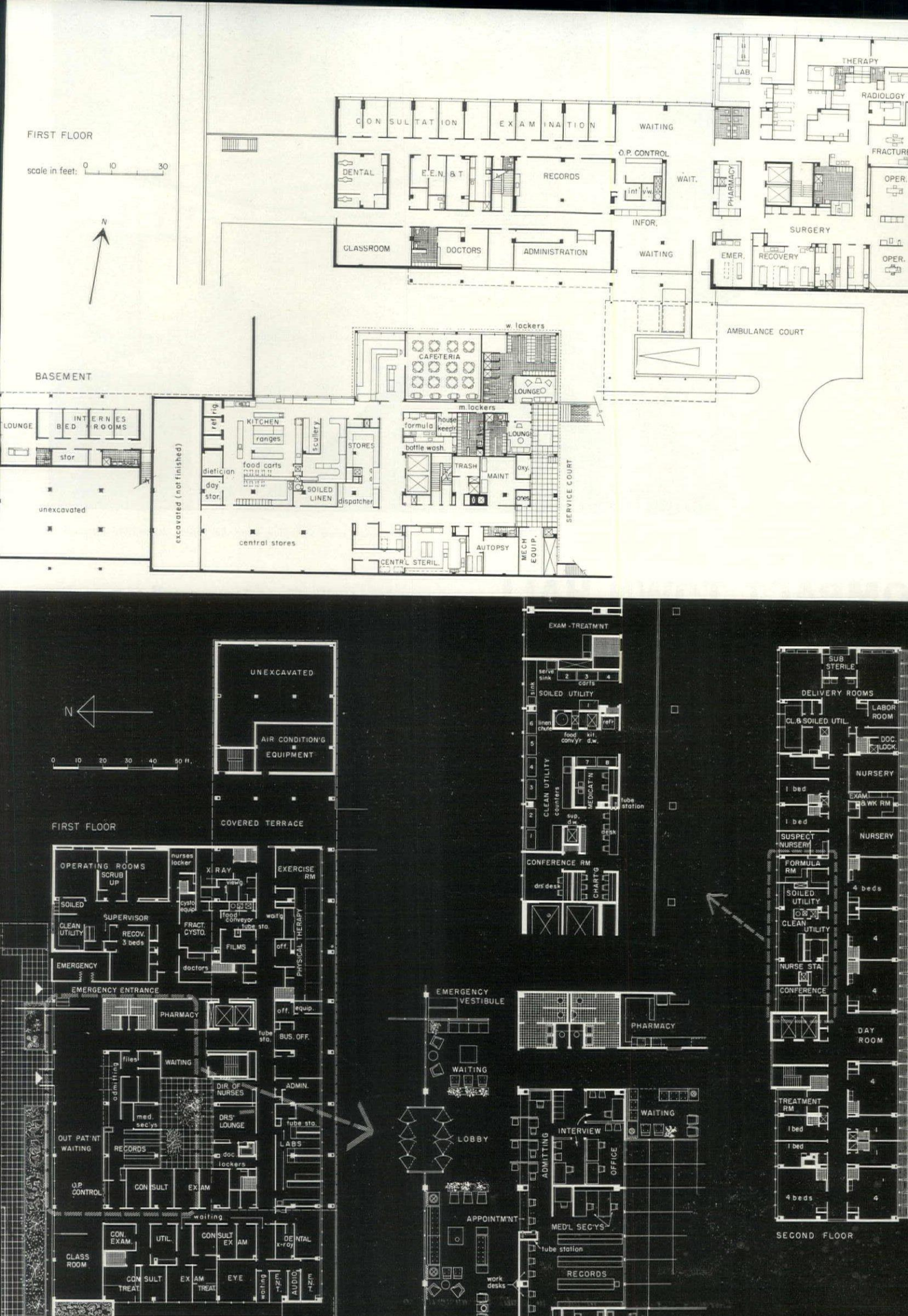
HAZARD makes the most of a slope

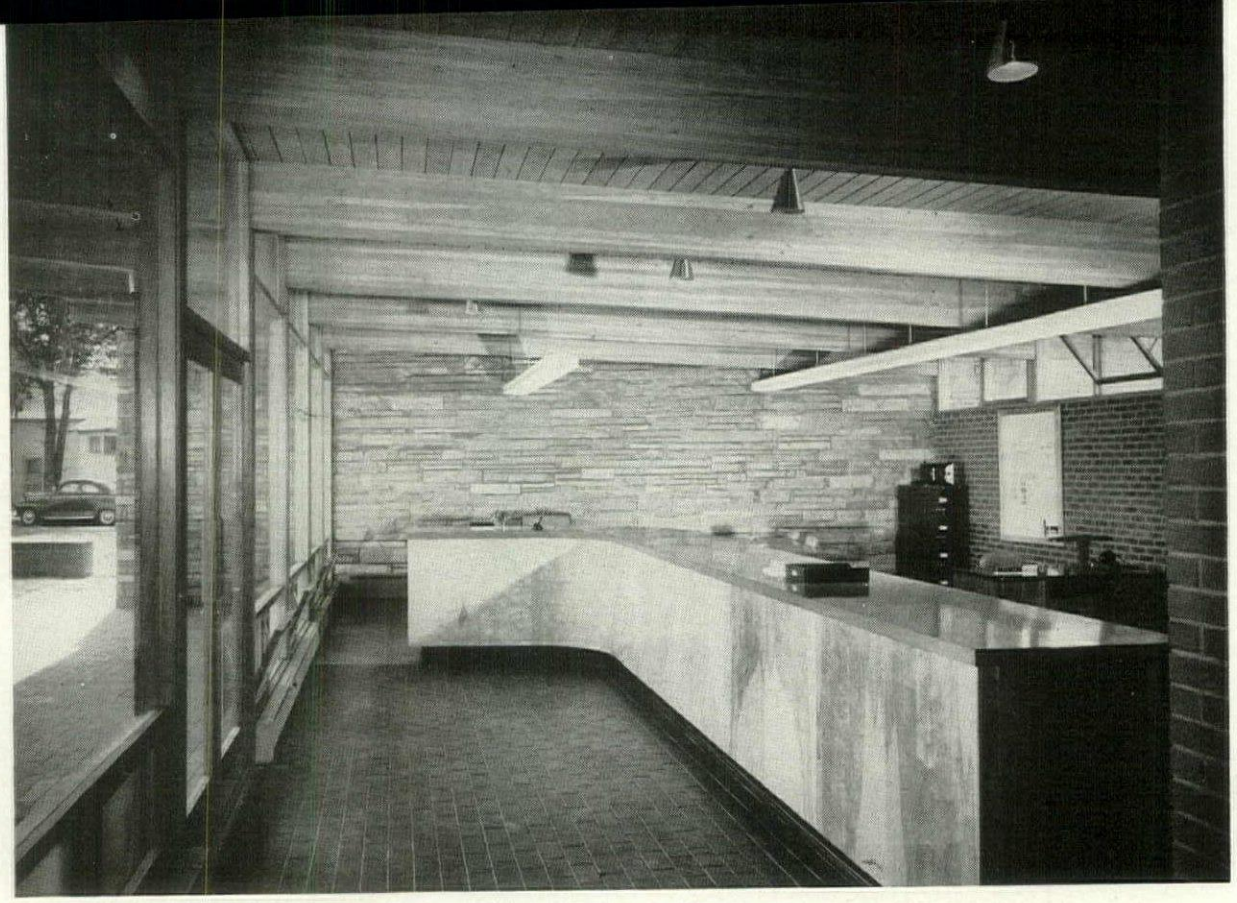
The architects had less than four acres, some of it sloping sharply, on which to get this 54,200 sq. ft., 84-bed (ultimately 170-bed) hospital, nurses' dormitories and staff housing. Instead of fighting the slope they worked with it, got fun as well as a good plan out of it. Note how the round cafeteria simultaneously solved a basement-plan snarl and an esthetic problem. The bridge to housing will be fun too—bent-pipe arch with slab.

Note (opposite page) the large-scale plan of lobby area with its uninstitutional waiting spaces, good placement of pharmacy. The interview-admitting section serves both out- and inpatients. The entire outpatient department (designed to permit group practice) is a far cry from the now outmoded notion of a charity stepchild department; it is a significant piece of up-to-date thinking and designing. Salient features of the public area are incorporated in the other hospitals too. All hospitals expand vertically.



BASEMENT


FIRST FLOOR
scale in feet: 0 10 30
N
CONSULTATION
EXAMINATION
WAITING
LAB.
THERAPY
RADIOLOGY
FRACTURE
DENTAL
E.E.N. & T.
RECORDS
O.P. CONTROL
int. vw.
WAIT.
PHARMACY
OPER.
INFOR.
SURGERY
CLASSROOM
DOCTORS
ADMINISTRATION
WAITING
EMER.
RECOVERY
OPER.
AMBULANCE COURT
BASEMENT
w. lockers
CAFETERIA
LOUNGE
m. lockers
LOUNGE
INTERNES BED ROOMS
stor
ref rig
KITCHEN
ranges
scullery
STORES
formula
house keepr
bottle wash
dietician
day stor.
food carts
SOILED LINEN
dispatcher
TRASH
MAINT
oxy.
ones
SERVICE COURT
unexcavated
excavated (not finished)
central stores
CENTR'L STERIL.
AUTOPSY
MECH EQUIP.
UNEXCAVATED
AIR CONDITION'G EQUIPMENT
0 10 20 30 40 50 ft.
COVERED TERRACE
FIRST FLOOR
OPERATING ROOMS
SCRUB UP
nurses locker
X RAY
viewg
EXERCISE RM
SOILED
SUPERVISOR
CLEAN UTILITY
RECOV. 3 beds
cysto equip.
FRACT. CYSTO.
food conveyor
tube sta.
wait'g
FILMS
off.
PHYSICAL THERAPY
EMERGENCY
doctors
EMERGENCY ENTRANCE
PHARMACY
off.
equip.
tube sta.
BUS. OFF.
files
WAITING
admitting
DIR. OF NURSES
ADMIN.
med. sec'ys
DRS' LOUNGE
tube sta.
OUT PAT'NT WAITING
RECORDS
doc lockers
LABS
O.P. CONTROL
CONSULT
EXAM
waiting
CON. EXAM.
UTIL.
CONSULT EXAM
DENTAL
x-ray
CLASS ROOM
CONSULT TREAT.
EXAM TREAT.
EYE
waiting
E.N.T.
AUDIO
E.N.T.
EXAM - TREATM'NT
serve sink
2 3 4 carts
sink
SOILED UTILITY
6 linen chute
food conv'yr
kit. d.w.
refr.
5 4 3 2 1
CLEAN UTILITY
counters
7 8
MEDICAT'N
tube station
sup. d.w.
desk
CONFERENCE RM
drs' desk
CHART'G
EMERGENCY VESTIBULE
WAITING
LOBBY
APPOINTM'NT
work desks
PHARMACY
WAITING
INTERVIEW
ADMITTING
OFFICE
MED'L SEC'YS
tube station
RECORDS
SUB STERILE
DELIVERY ROOMS
LABOR ROOM
CL. & SOILED UTIL.
DOC. LOCK
NURSERY
1 bed
EXAM. & WK RM
1 bed
SUSPECT NURSERY
NURSERY
FORMULA RM
SOILED UTILITY
4 beds
CLEAN UTILITY
4
NURSE STA.
CONFERENCE
4
DAY ROOM
4
TREATMENT RM
1 bed
1 bed
1
4 beds
4
SECOND FLOOR



Reception area *of office wing has open, hospitable atmosphere*

OMPACT TOWN HALL accommodates all offices for a small community,

uses wall-bearing structure to simplify construction and cut costs

Fire department, police headquarters (plus jail), city council, city clerk, magistrate's court, city treasurer, mayor's office, city engineer—all these departments are organized into a pleasant unity in this new town hall for Brighton, Calif. (pop. 7,000). The total cost: $103,000, or $13.72 per sq. ft.

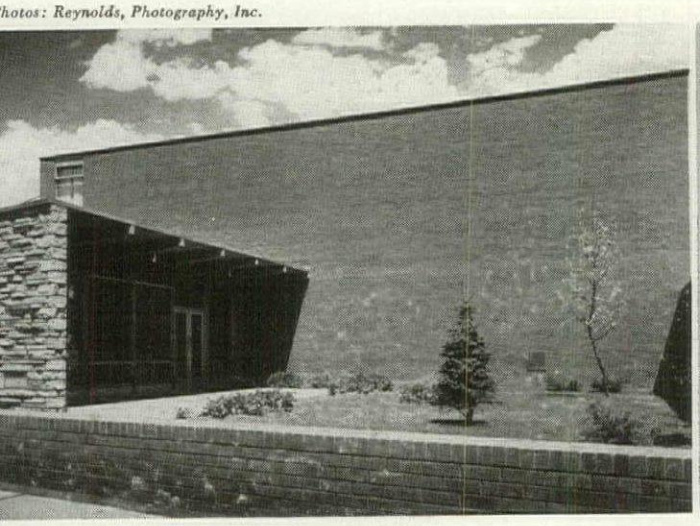
And all these departments are not only adjacent; if necessary they can also be managed by one hand. Architect Hunter, realizing that any emergency in a community this size means that all city employees have to jump departmental barriers and cooperate, left out enough office partitions so that one man can take entire charge. Example: without leaving his own office desk, the city clerk can act as desk sergeant, easily taking over the switchboard when the entire police force is called into action.

Almost equally important is the design character of the structure. Government on this level is relatively informal, so the building consciously was designed to seem hospitable, with a pleasant entrance court garnished with planting. Structurally everything was kept very simple for two reasons:

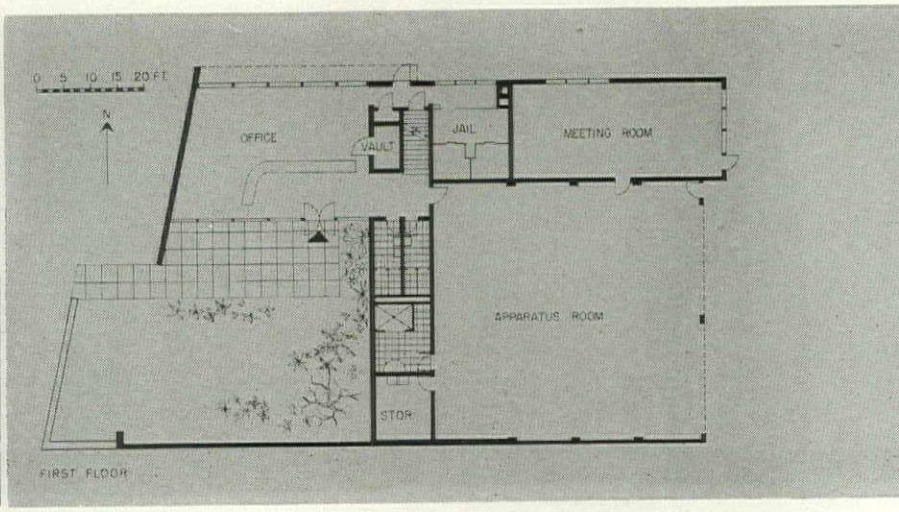
▸ *Cost.* The county did not want to go deep into debt for the new building, and did not have to.

▸ *Local contracting.* Community pride led to the hope that a local contractor could get the contract; simple wall-bearing structure made it possible.

Photos: Reynolds, Photography, Inc.



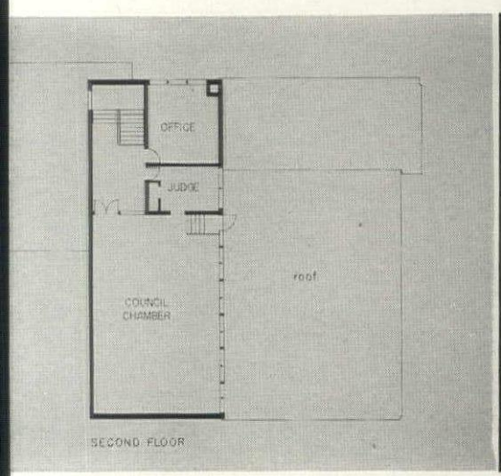
Entrance garden *was included to avoid the austerity so precious to most municipal structures.*

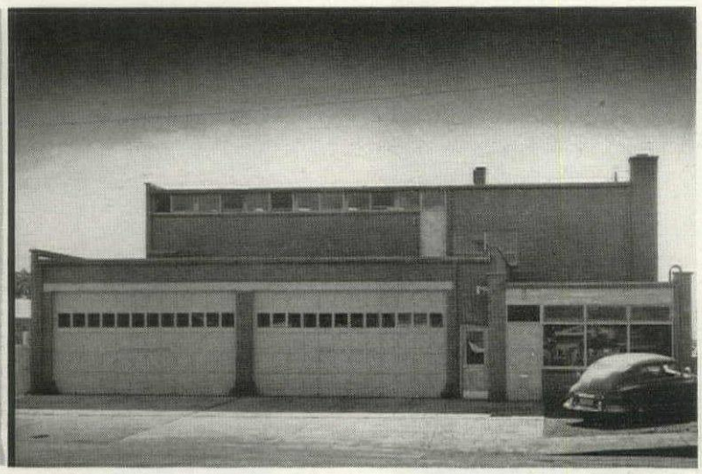


Floor plan *is open. One employee can hold down the whole hall if necessary, including an occasional check of the jail.*

Council chamber *on second floor is designed to have utilitarian dignity without ostentation. Windows are for ventilation only, since council meets at night.*

JAMES M. HUNTER, architect
CARL REINHARDT, general contractor
MARSHALL & JOHNSON, INC., mechanical engineers
ARTHUR F. WEERS, electrical engineer





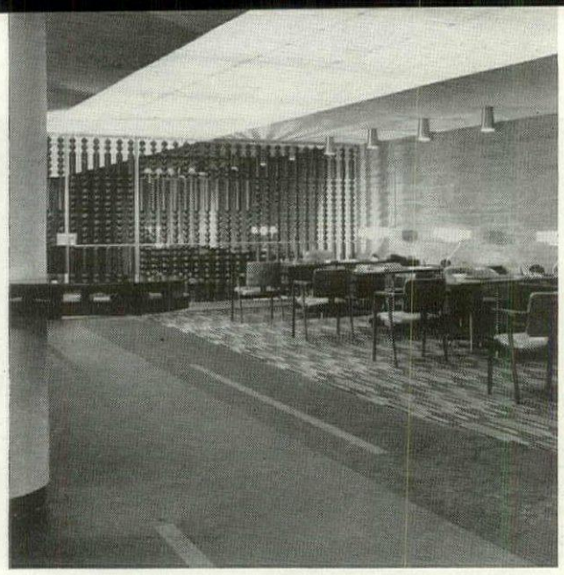
Fire department *is allotted considerable space because it is a volunteer organization. It is run almost as a club.*

COST BREAKDOWN:

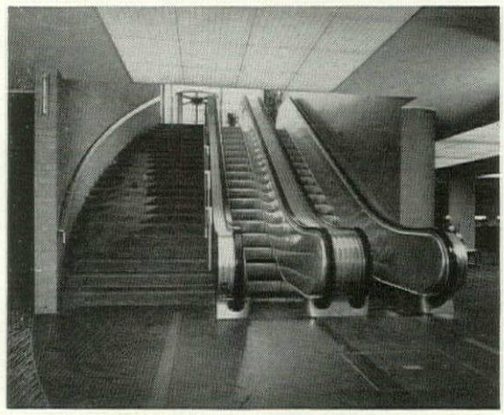
Plant	$2,840
Excavation	810
Concrete	15,248
Masonry	21,799
Steel	3,118
Roofing	2,068
Sheet metal	589
Glass	664
Carpentry	23,172
Ceiling	743
Flooring	1,617
Jail	5,832
Painting	1,240
Electric	5,779
Plumbing	7,564
Heating	10,212
Total	$103,295

WILLIAM S. BECKETT, architect
SAMUEL BIHR JR., architect in charge of supervision
HIRAM ELLIOT CONSTRUCTION CO., general contractors
SHELDON W. SWICKARD, electrical engineer

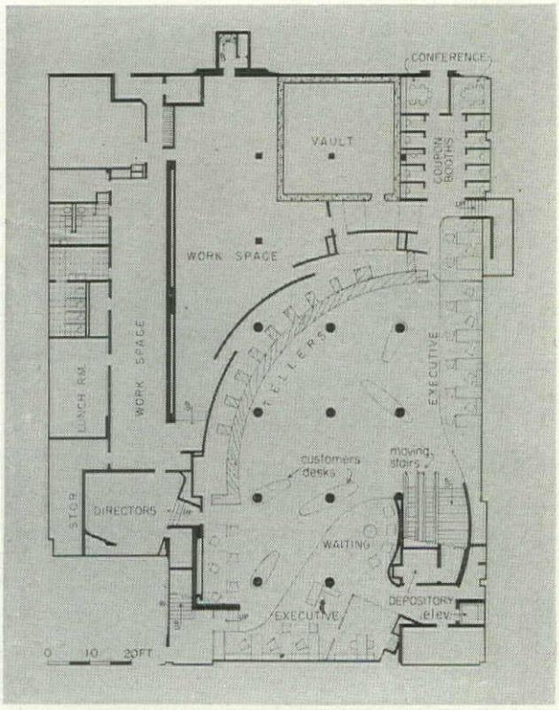
Photos: Julius Shulman; (top p. 159) Jack Stark



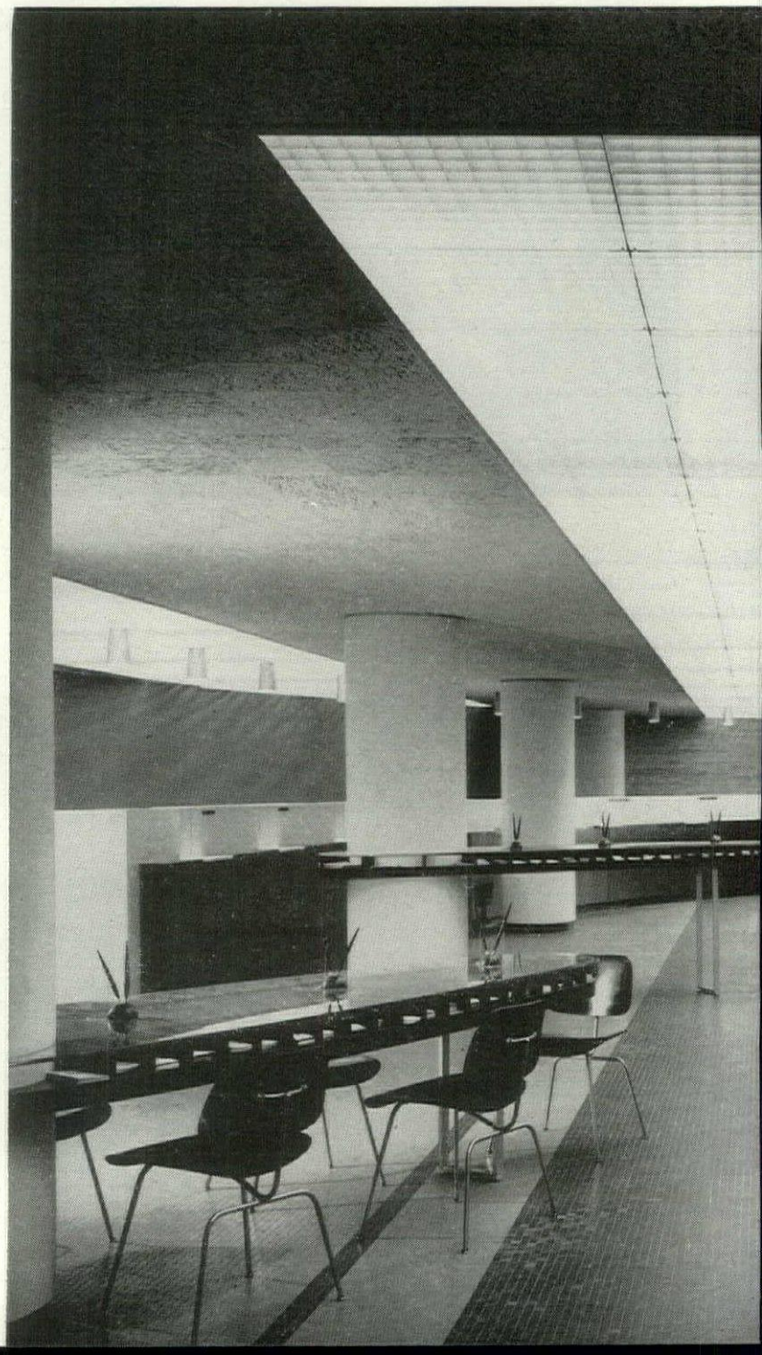
Grille *designed on abacus theme partitions the vault area*

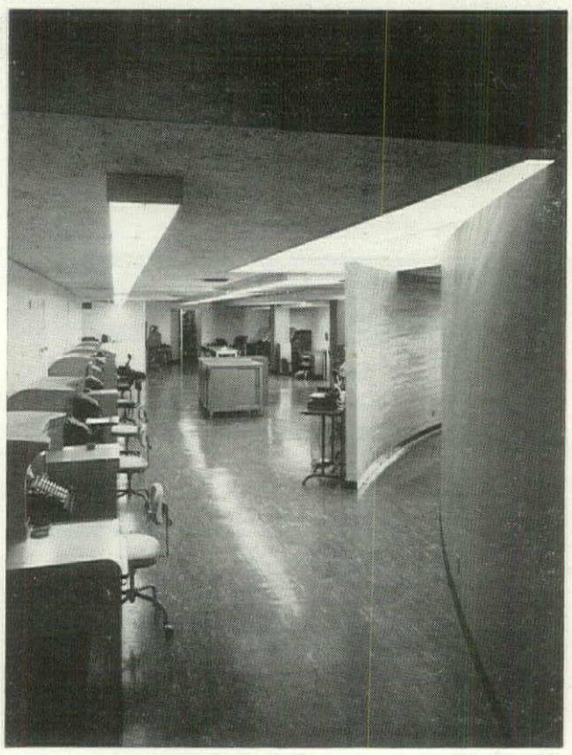


Stairways, *fixed and moving, connect reception room at street level with underground banking floor.*

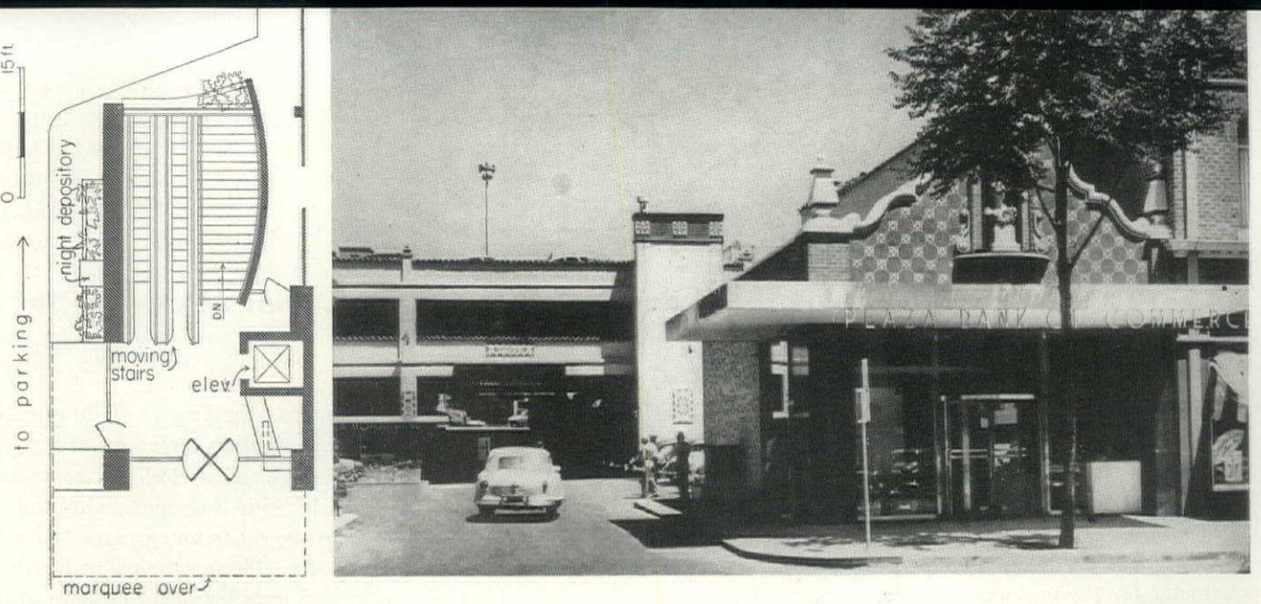


Banking floor, *a remodeled cafeteria, plays curves of partitions, counters, tables*





General office area *lies behind overlapping curved walls*



***Entry building** and 600-car parking garage (with drive-in banking counter) are the only parts of bank extending above grade*

UNDERGROUND BANK beneath the traditional crust

of Kansas City uses modern design to boost business and efficiency

and carpets against regular column spacing and ceiling pattern



Wedged in under a rococo Spanish facade, this new bank takes a firm contemporary stand right in the heart of Kansas City's eclectic Country Club Plaza shopping district, whose managers frown heavily on modern architecture.

To go modern, the bank almost literally had to go underground, taking over an old cafeteria space, with only an entrance on the street level. On this level a reception desk, escalators, stairway and elevator all point downstairs to the banking area. (Above ground, but off the street, are also a three-level parking lot with a drive-in banking counter.)

But the underground space is anything but cellar-like. A ceiling of fluorescent light lifts the weight of the building overhead from the customer's mind; and a considered use of curves in plan saves the desk and counter arrangement from the usual bank severity.

Reaction of the bank management (headed by Arthur B. Eisenhower, the President's brother): "There is no question that business has increased because our facilities are more comfortable, more convenient and more inviting. The arrangement of the tellers' facilities has enabled us to use a larger number of windows more efficiently and effectively than would have been the case with the traditional "U" shaped or rectangular setup. . . . The open feeling has eliminated any reserve that could have existed between the public and our officers."

Upstairs, the architect did his best to shield his modern street facade from the dowdy glories of the Spanish-American graduation-diploma decorations of the superstructural parapet impediments. Architect Becket's method was a discreet canopy jutting just as far out over the sidewalk as the real estate grandees would permit (9′-6″). From across the street, this makes for an amusing contrast, but close up it works very well; the bank clearly deals in dollars, not doubloons.

LOCATION: Roland's Cocktail Lounge, San Francisco
MARIO L. GAIDANO, architect
ROLAND BACCI, owner
CARL YEAKEY, contractor

REMODELED BAR doubles profit to owner, wins AIA award for architect

This cocktail lounge was transformed from a chrome-and-juke box bar to a tasteful landmark in San Francisco. When Architect Gaidano was called in to "redecorate" the bar to stimulate its so-so trade, he saw—and seized—the chance to work a minor miracle.

The owner proposed to spend about $7,500 for the job but Gaidano convinced him that nothing less than an entirely new character for the business could jolt it out of its established rut. The architect's concept of this new character is best summarized by his own words.

"In the lounge, the individual should feel at once pleasantly awed by the atmosphere and comfortably at home. He should be, as he cannot be in his own home, taken out of himself and still be master of the situation—of the room itself. This can't be done by deafening him with juke boxes, startling him with pinball-machine effects or mirror reflections without end. Everything must be scaled to his level, must enclose him in an atmosphere of comfort, ease and naturalness."

To realize this concept, Gaidano did away with all the glitter of the former room and treated the area as three integrated spaces: the bar and two lounges. In the bar he replaced the usual mirror with gold grass cloth and used concealed accent lights to show off the wall and illuminate the display of liqueur bottles. A grid of redwood beams forms a deep, textured ceiling here. In one lounge area he used more gold grass cloth on the walls and illuminated the space indirectly with concealed lights that reflect from the plaster ceiling. In the other lounge area walls are redwood; the ceiling is of wide-spaced beams topped with redwood strips. Light filters down through gaps between the strips to illuminate a brick fireplace wall which is the main focus of the room. Low tables, chairs, ottomans and sofas increase the room's intimacy.

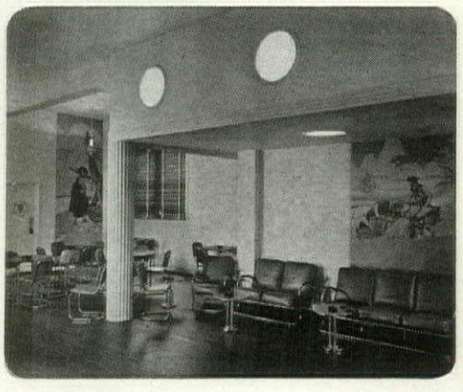
The exterior of the building now hints at the secluded comfort inside: obscure glass and a brick wall suggest privacy; a discreetly lighted sign and a planting box in the entryway suggest luxury.

Total cost of remodeling was just double the owner's original budget—$15,000. But so successful was the design that owner Bacci paid off all costs in eleven months and watched profits climb 200%. Most important, his clientele—formerly from the neighborhood—now comes from all over the city to enjoy the distinctive atmosphere.

Architect Gaidano gained, too. He not only realized his concept in the remodeling, but won an AIA award from the nothern California chapter for his efforts.

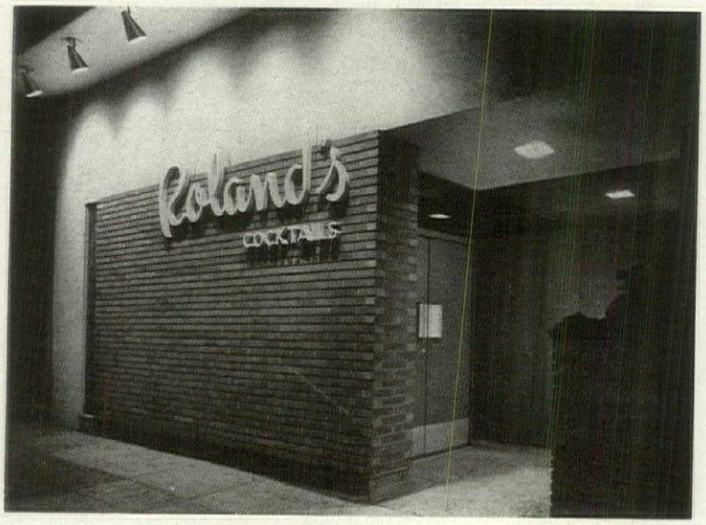


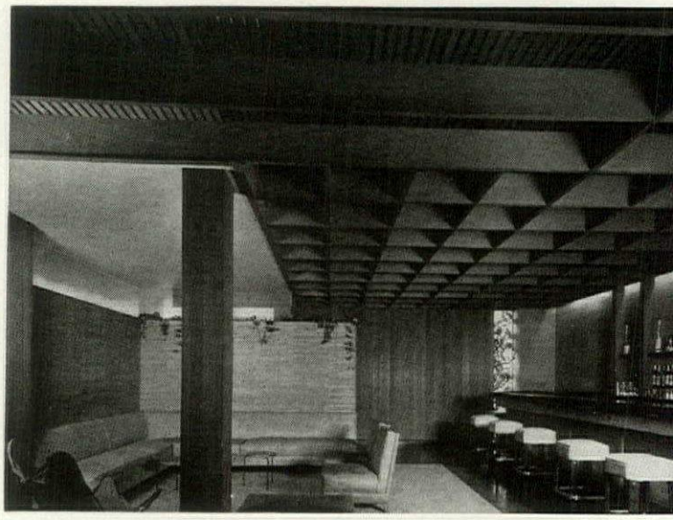
Old facade *had a neon-lit "good-time-Charlie" character, was replaced by brick wall and recessed entrance (below) that suggest the quiet luxury of the interior.*



Juke box interior, *accentuated by chrome furniture, harsh lights, murals was replaced by tasteful use of redwood textured ceiling and walls, indirect lighting, low comfortable furniture (below).*

Photos: (3 small, above) Gabriel Moulin; (others) Ernest Braun

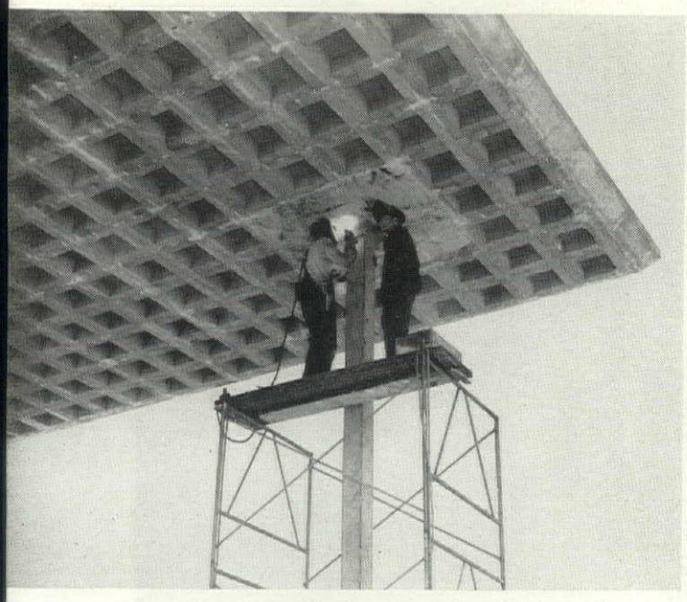




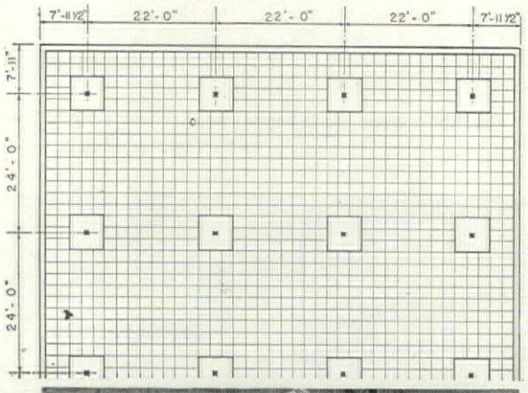
BUILDING ENGINEERING

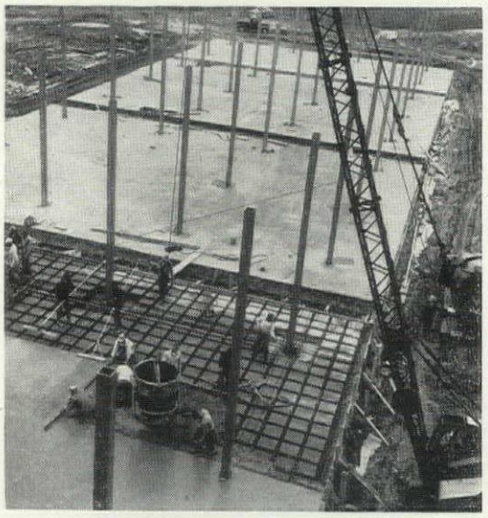
1. **Lift-slabs with noise control for $2 per sq. ft.**
2. **Insulated aluminum curtain wall for $6 per sq. ft.**
3. **Two-story aluminum wall panels for quick enclosure**
4. **New construction techniques for big projects**

Photos: (bottom, left) The Peoria Journal; (others) Associated Photographer

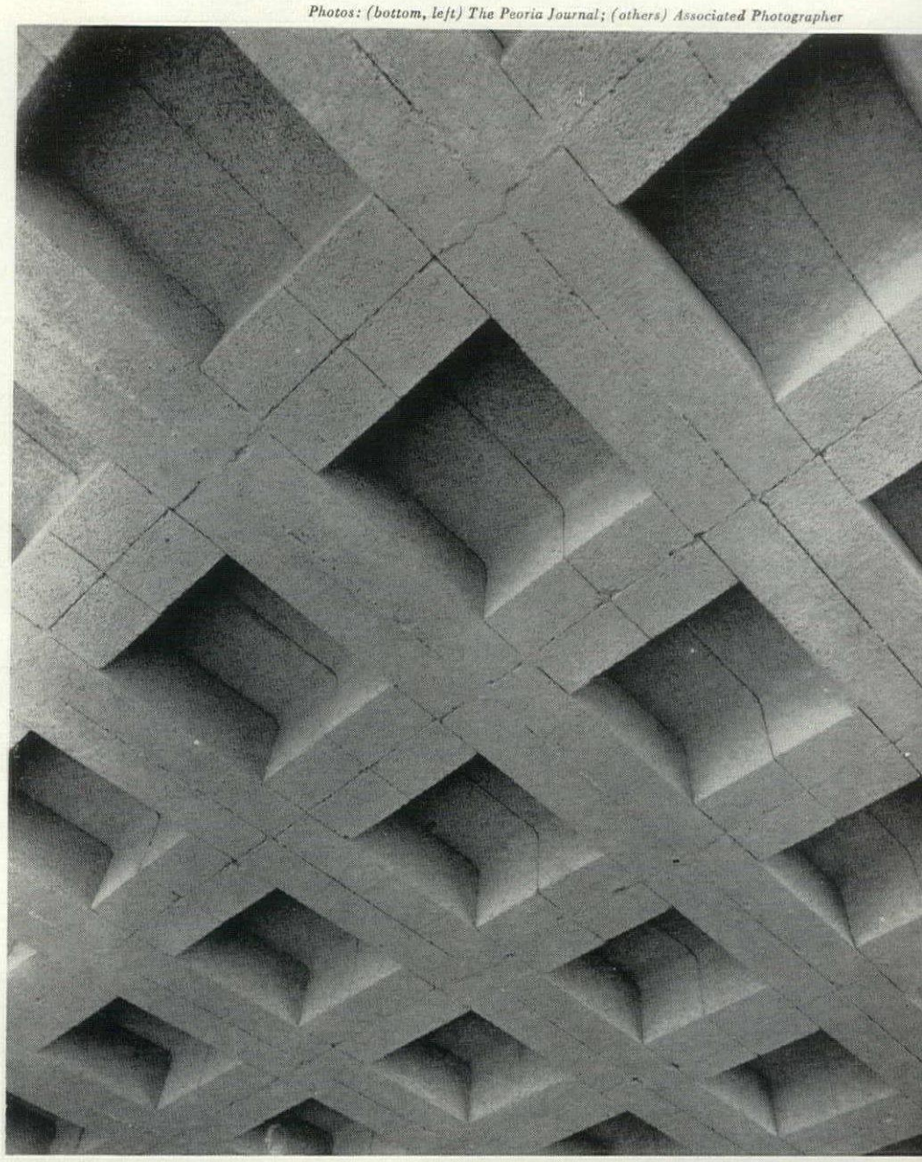


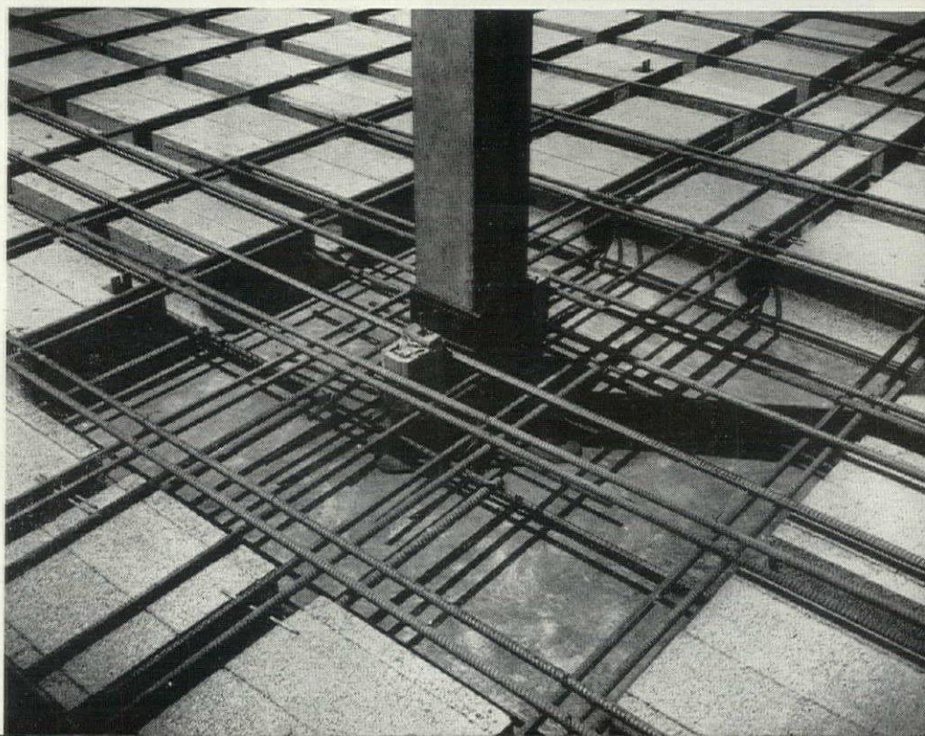
"Waffle" block slabs *are welded atop 24' steel columns. Underside of slab (right) shows four-piece, 2' square coffer blocks on which slab is poured.*



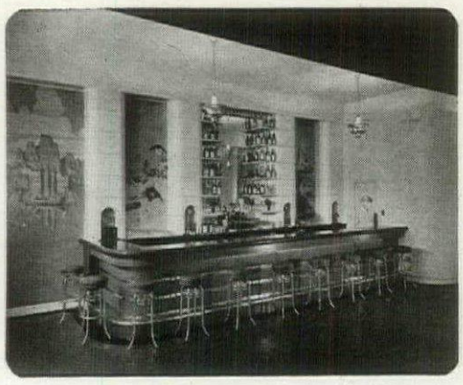


Four slabs *are cast on ground floor (above); each is later hoisted on columns 22' x 24' apart. Right: supporting collars with two-way reinforcing.*



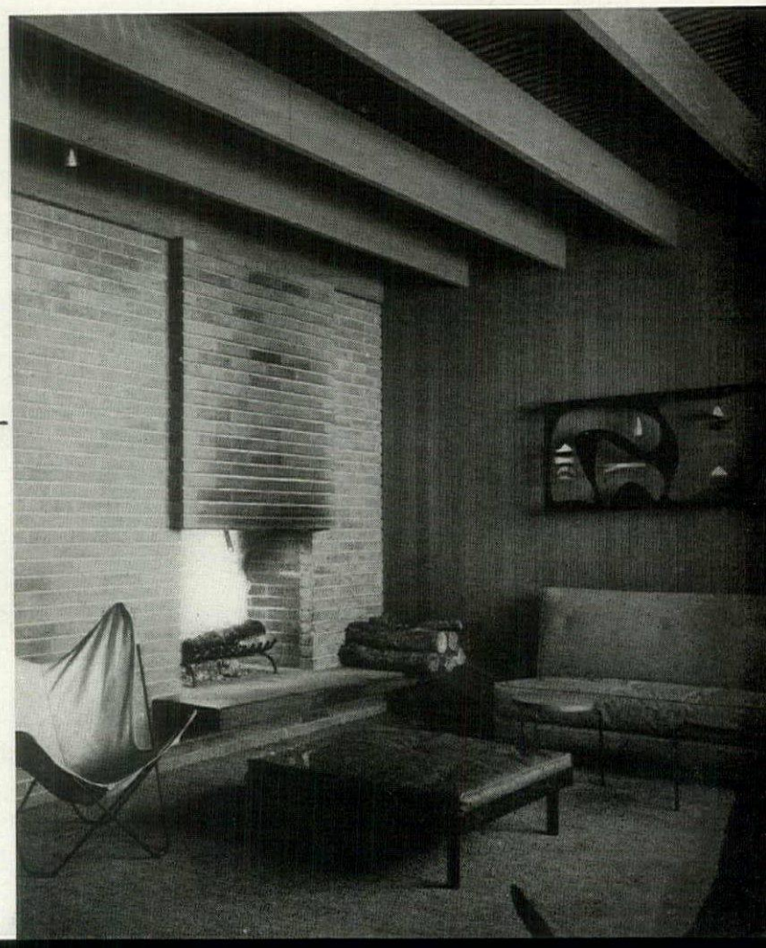


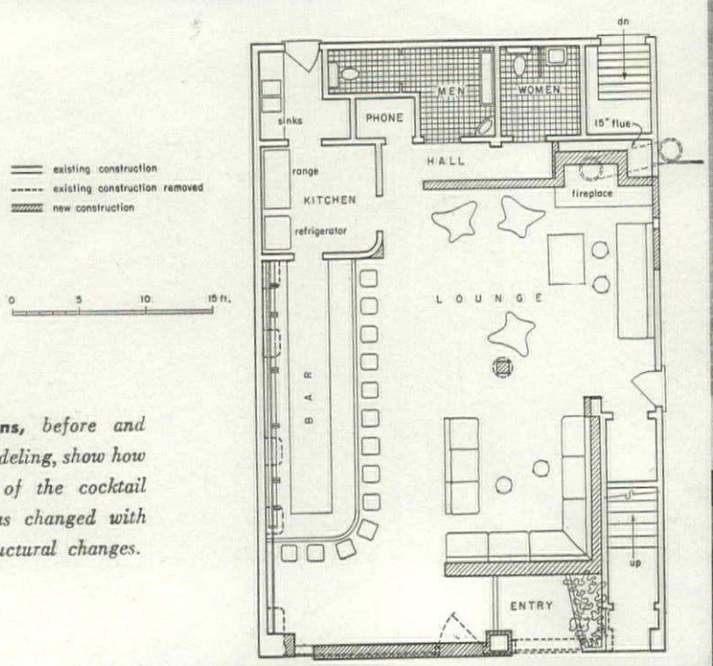




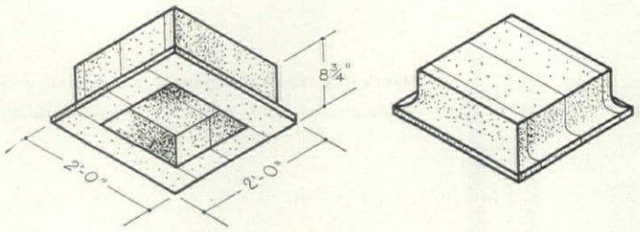
Old mahogany *bar dating from 1915 was only authentic note in original room (left). It was retained in remodeling (above) but now is complemented by tasteful wall and ceiling treatment.*

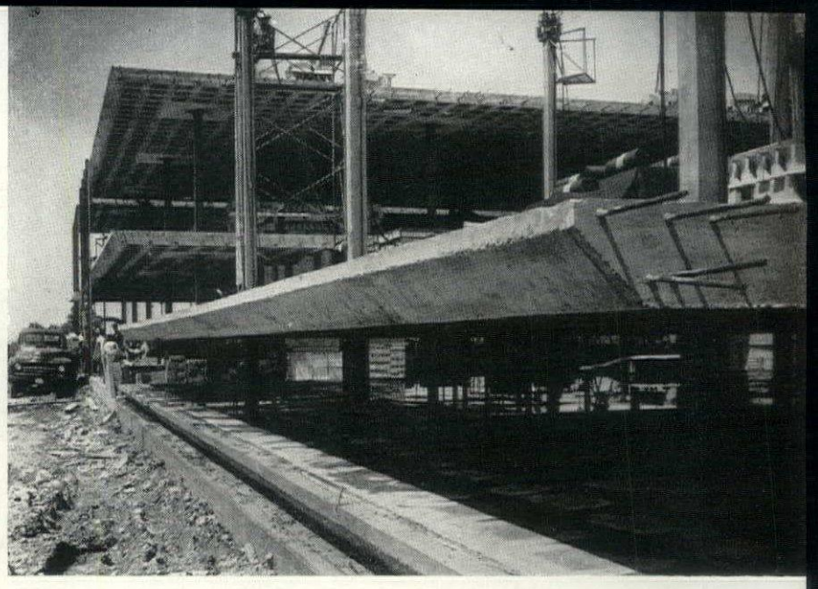
Fireside lounge *has intimate character with sophisticated note added by Reg Ackler's wall mobile.*





Floor plans, *before and after remodeling, show how character of the cocktail lounge was changed with minor structural changes.*

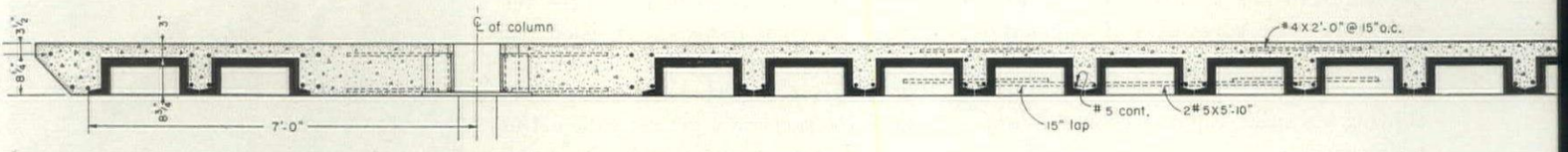




1. LIFT-SLABS OF LIGHTWEIGHT BLOCK

Low-cost concrete block in waffle pattern serves as acoustic ceiling finish for two-story school, cuts slab costs, speeds construction

Roof slab is lifted 24' *by jacks atop columns. Second-floor slab, visible on the ground, will be hoisted 12' after roof slab is in position.*



Lift-slabs of lightweight concrete "waffle" blocks which remain in place as acoustic ceilings helped frame this two-story high school in four weeks for $2 per sq. ft. The entire 91,500 sq. ft., 910-pupil Limestone Township High School in Peoria, Ill. was completed in ten months for $1,130 per pupil, under $11 per sq. ft. The lift-slabs' cost of $2 per sq. ft. beat the bid of $2.10 for cast-in-place slabs, also saved three months' construction time.

Roof and second-floor slabs are cast in sequence on the ground-floor slab, then jacked up 8″ square steel columns in the familiar "Youtz-Slick" method (AF, Sept. '51). First the roof is hoisted 24′ and the steel collars in the slab are welded into position on the columns; then the second-floor slab is hoisted 12′ and similarly positioned.

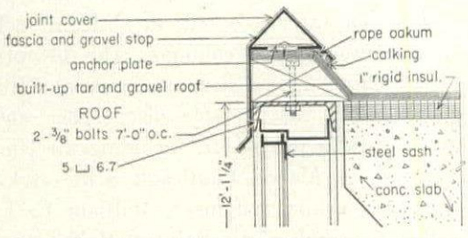
To lighten the structure and provide good acoustics, slabs are made of 2′ square coffer blocks made of 2,000-psi lightweight concrete. These are 8¾″ deep, have 2″ thick shells and a 3″ flange to carry the reinforcing rods and poured concrete of the 11″ deep slab. Laid side by side, the blocks make a continuous form like the grid of a waffle iron. Weight of the coffer block is 25 psf; of the finished slab, 100 psf. Each block is machine-cast in four sections by standard concrete block equipment for $1.60 per block or 40¢ per sq. ft., delivered.

This framing system proves extremely simple and flexible. Design of the slab is according to standard ACI Code with the coffer blocks considered as dead load (they are held in place by bond alone). Only the columns are fixed (at 22′ x 24′ intervals) and the slabs built around them as desired. Coffer blocks are omitted in a 6′ x 6′ area around each column to produce a section of solid concrete to resist shear forces. Joints between slabs are cast-in-place.

Largest of the 15 slabs is 60′ x 82′, weighs 275 tons and is carried upon 12 columns (a maximum of 12 jacks can be handled by the lifting equipment at one time). Capacity of the jacks is well over twice the weight of the slab; subcontractors take advantage of this by placing their supplies on the slab while it is still on the ground, thus having everything hoisted for them.

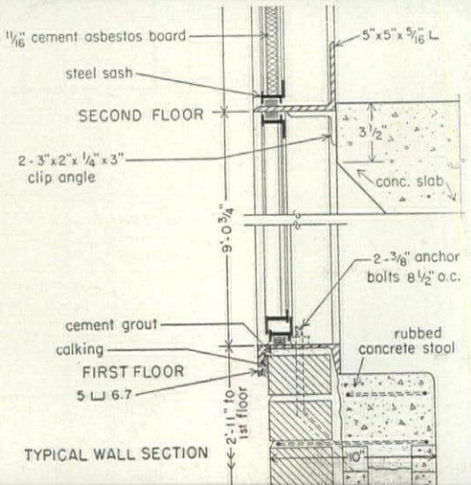
Non-loadbearing exterior walls and partitions are made of clear glass and glass block, mounted upon masonry cavity walls. Underside of the slabs is spray-painted and, with ductwork, left exposed; sound absorption of this ceiling is found to average 50%.

The school is designed by Hewitt & Bastian, architects; Pfuhl & Shideler are the structural engineers; C. Iber & Sons, the general contractor.



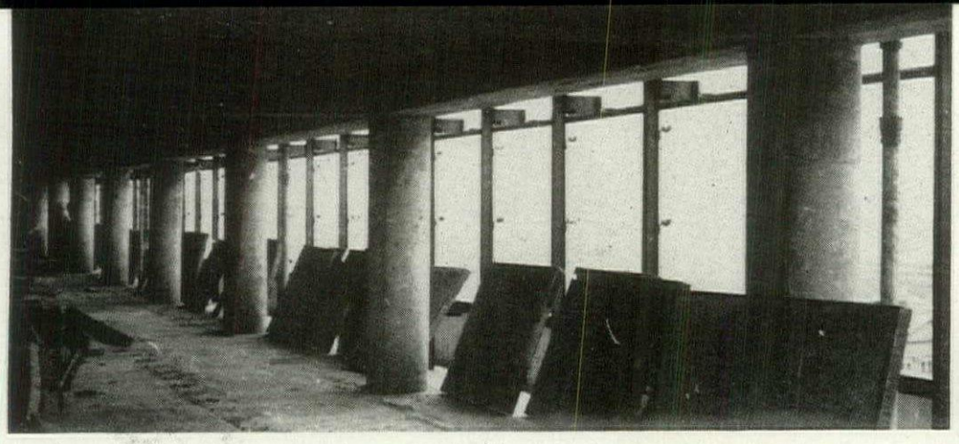


Lift-slab classroom wing *(above) adjoining prefabricated steel truss assembly hall was all framed in four weeks.*



TYPICAL WALL SECTION

Non-loadbearing walls *(left) are built around lift-slabs, the edges of which are cantilevered out 8′ to 9′ from supporting columns.*



Vermiculite concrete panels *are placed inside building ready for erection as wall insulation.*

2. INSULATED ALUMINUM CURTAIN WALL

Precast vermiculite concrete panels and aluminum skin cost $6 per sq. ft.

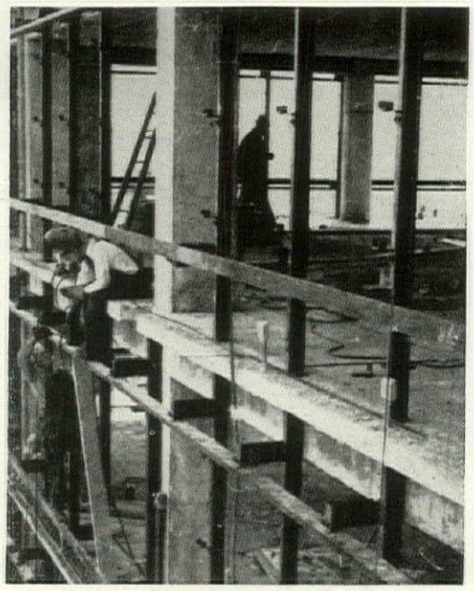
More architects are turning to light prefabricated curtain walls. Here and on the next page are two new applications that again demonstrate the advantages of thin metal skins over masonry—greater strength and weathertightness, lighter construction occupying less space, rapid erection and easy maintenance.

Here, on the new State Office Building at Jefferson City, Mo., is a clever combination of 3″ panels of light vermiculite concrete faced with 5/32″ weather-resistant aluminum sheathing. Hung on the concrete structure in continuous spandrel walls, 4½′ high on a 5′-2″ horizontal module, this wall costs $6 per sq. ft. including a light steel supporting frame (panels cost $4.60 per sq. ft. delivered; erection $1.40 per sq. ft.). Other comparative cost figures: in Alcoa's Davenport Building the aluminum wall with concrete backup cost $4.78 per sq. ft. (AF, June '49); Gateway Center's stainless steel wall with integral concrete backup, $6.80 per sq. ft. (AF, Apr. '52).

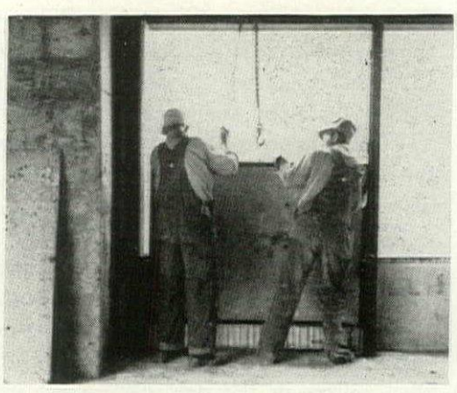
Weight of the wall is 14 psf (saving an estimated 1,700 tons as compared with the 150 psf of a 14″ masonry wall). A sliding joint with slotted bolt holes provides efficient horizontal connection without caulking. This joint permits thermal expansion up to 3½″ in the 193′ length of the building, yet the wall is so tight and the vermiculite concrete insulation so good that an air temperature of 80° is achieved with 100° water in the window heating units.

Concrete panels are precast with a 1-to-6 mix of cement and vermiculite aggregate (giving a 28-day compressive strength of 450 psi, a density of 26 psf and a "K" factor of 0.76). From inside the building, each panel is lowered into place on 4″ steel channels by two men in only 20 minutes. The aluminum facing goes up even more quickly. Working from ordinary painter's scaffolds, each 4½′ x 5′ spandrel is bolted to a steel bracket by one man in only 15 minutes.

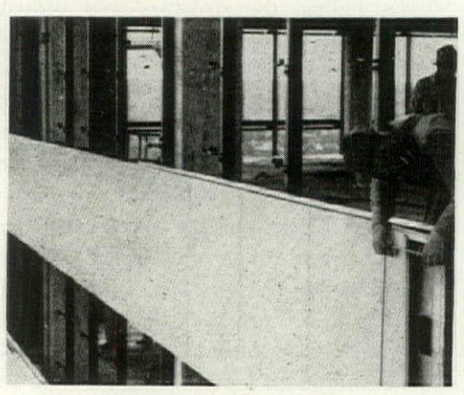
The steel supporting frame for the wall is mounted on a 6″ cantilevered concrete slab that extends out 2′ to 3′ from each peripheral line of columns. The 14-story flat plate concrete structure contains 219,000 sq. ft. of rentable office space and cost $18.20 per sq. ft. including air conditioning. Marcel Boulicault is the architect; structural engineer, William C. E. Becker; mechanical engineer, Ralf Toensfeldt; and general contractors, MacDonald Construction Co.



Light steel frame *will carry wall and windows*

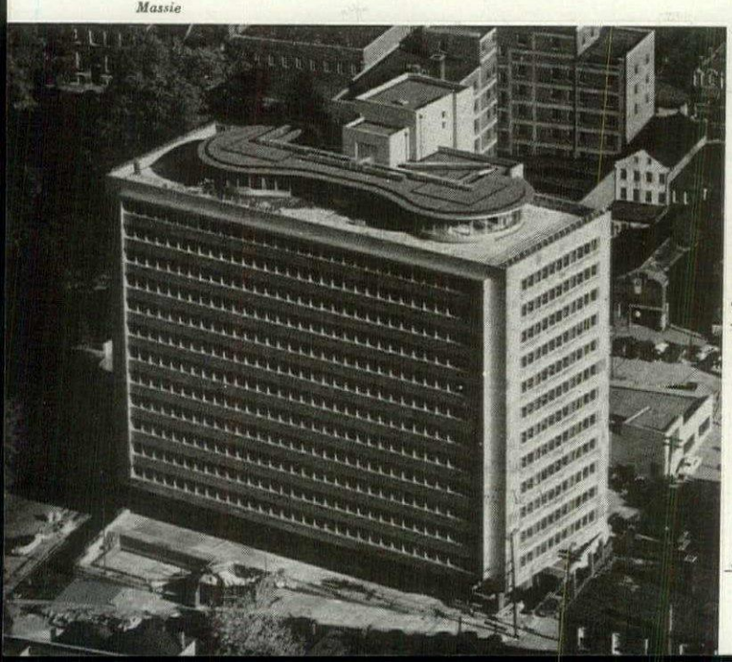


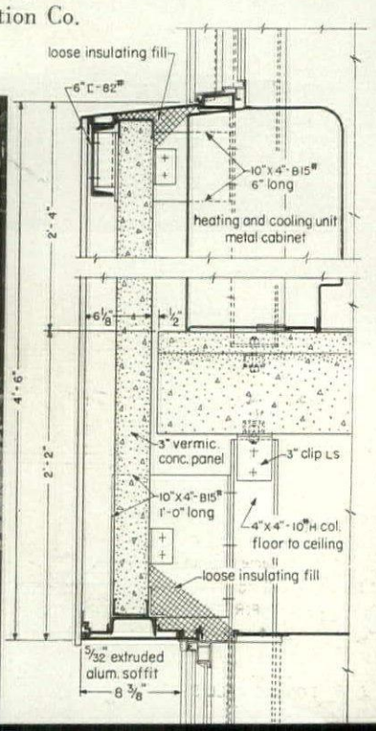
Precast panels *are lowered into steel channels*

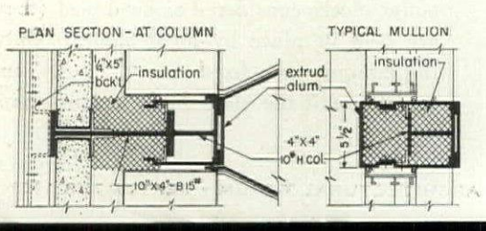


Aluminum spandrel covers *bolted into place (above) give horizontal accent to completed State Office Building (far left).*

Massie









***Two-story aluminum panel** is picked up off floor and hoisted into place by three men with aid of block and tackle*

3. PREFAB ALUMINUM SKIN

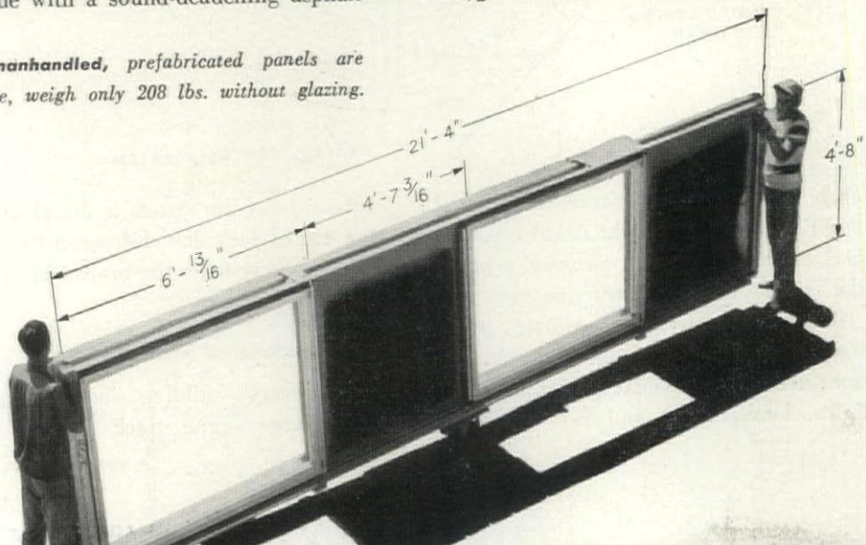
98,000 sq. ft. of exterior wall, factory-made in two-story units, erected in 6½ days

Even the contractors were surprised to see how fast this aluminum curtain wall went up on the 26-story office building nearing completion at 99 Park Ave., N. Y. Having cautiously provided 40 men and scheduled 12 days for the job, they completed it in 6½ working days. Cost: $6 per sq. ft.

Basically, the wall consists of a skin of ⅛″ aluminum (surfaced on the outside with a 5% silicon-aluminum alloy and on the inside with a sound-deadening asphalt coating) plus a backup of 4″ cinder block and ¾″ vapor-sealed glass-fiber insulation to give a "U" value of 0.24. The cinder block is built up to the 2′-7″ sill height on each floor to withstand a three-hour fire test. (Paradoxically, under most building codes the backup would not be required if the wall were entirely of glass.)

In developing this wall the architects had three objectives: 1) a thin wall giving maximum rentable space—total thickness of 10½″ is about 6″ less than the typical all-masonry wall and the windows are located as far out as possible; 2) simple, low-cost maintenance—the aluminum is washed by rain and needs no cleaning; the vertically pivoted windows are cleaned from inside; 3) speedy enclosure without expensive plastering. They considered the Alcoa wall (AF, Apr. '52), decided to use larger, two-story panels to exploit the long extrusions possible with aluminum. These panels are prefabricated in units 4′-6″ wide and 23′-3″ high. They com-

***Easily manhandled,** prefabricated panels are 4½′ wide, weigh only 208 lbs. without glazing.*



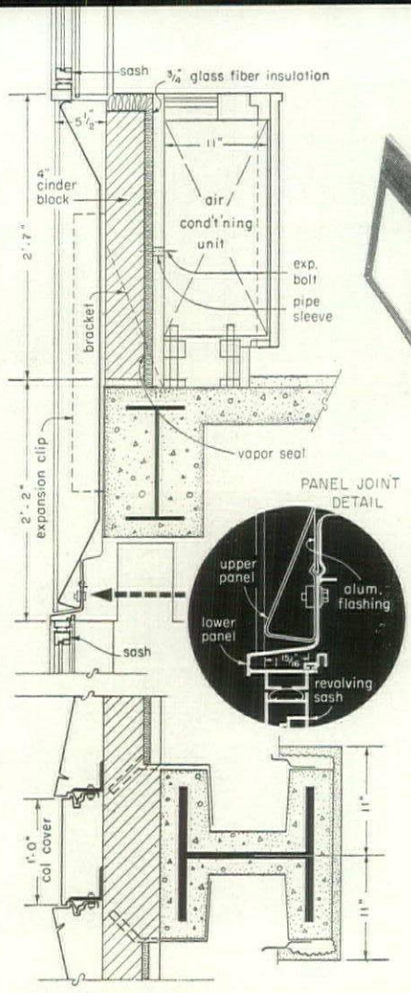
***Three days' work:** half of facing is in place. Erection from inside the building saves time.*

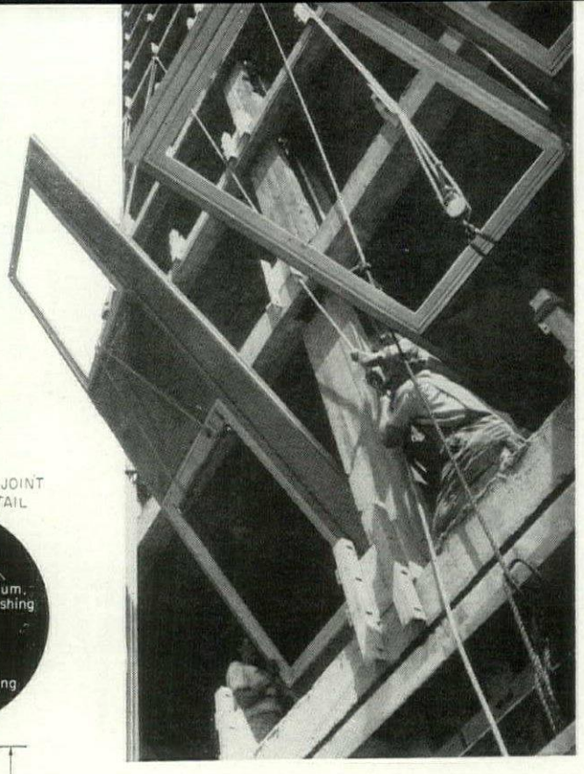


prise two 4′-6″ high spandrel sections, die-pressed into a 5″ deep concave pattern for rigidity, and two 6′ high aluminum window frames with stainless-steel weather-stripping, all shop-welded between a pair of 23′-3″ extruded aluminum "mullions."

In erection, the panels are simply hoisted into position and the mullions bolted to galvanized steel brackets that are welded to the spandrel beams of the steel-framed structure. Adjacent mullions mesh to form a strong joint that is weathertight without caulking. Vertical expansion is provided at intermediate floors by aluminum spring connections; horizontal expansion by the zigzag mullion joints. Condensation accumulating behind the aluminum facing is drained through weep holes at the base of each panel. Panel weight: 2 psf.

The building contains 403,500 sq. ft. of air-conditioned rentable space, is being built for about $12 million ($2 per cu. ft.). Emery Roth & Sons are the architects; Victor Mayper & Associates, structural engineers; W. R. Cosentini & Associates, mechanical engineers; Tishman Realty & Construction Co., general contractor and owner. The curtain wall was fabricated and installed by General Bronze Corp.





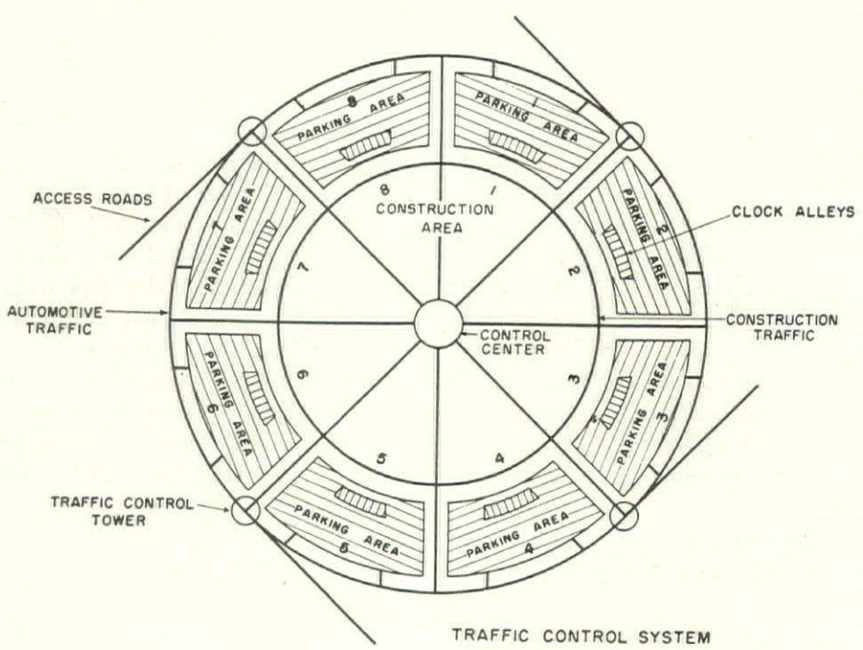
Erection closeup *shows panels being hoisted into position to be bolted to the galvanized steel brackets visible on each spandrel beam.*

4. NEW IDEAS SPEED BIG JOB

Billion-dollar AEC plant stimulates new thinking on construction techniques

At the peak of construction the billion-dollar U-235 "facility" for the Atomic Energy Commission near Paducah, Ky. covered 8 square miles (5,000 acres) and employed 23,000 people. Its great scope and importance to the national defense challenged architects and engineers to improve speed and quality of construction at minimum cost, a challenge they met with many new construction methods. The most successful new ideas are described below.

Prime contractor for the plant is F. H. McGraw Co. Architect-engineers are Giffels & Vallet, Inc.; Smith, Hinchman & Grylls, Inc.; Singmaster & Breyer; and Sargent & Lundy. Operators of the plant are Carbide & Carbon Chemicals Co.



TRAFFIC CONTROL SYSTEM

1. Traffic controls

To ensure that the 10,000 cars belonging to employees did not hold up construction, the traffic manager devised a rigid traffic control scheme whereby the entire construction area was ringed with eight vast parking fields. Four access roads lead to an outer ring-road around the parking areas. A second ring-road is inside the parking areas for the use of construction traffic. In addition, a series of eight radial roads connect the ring-roads and a control center in the middle of the construction area.

The whole system is coordinated by five traffic control towers at the local road junctions assisted by manually controlled traffic lights, loudspeakers and two-way radios. Efficiency of the system is demonstrated at the end of each day shift when 8,000 vehicles get away from the project in about 17 minutes.

2. Suspended scaffold

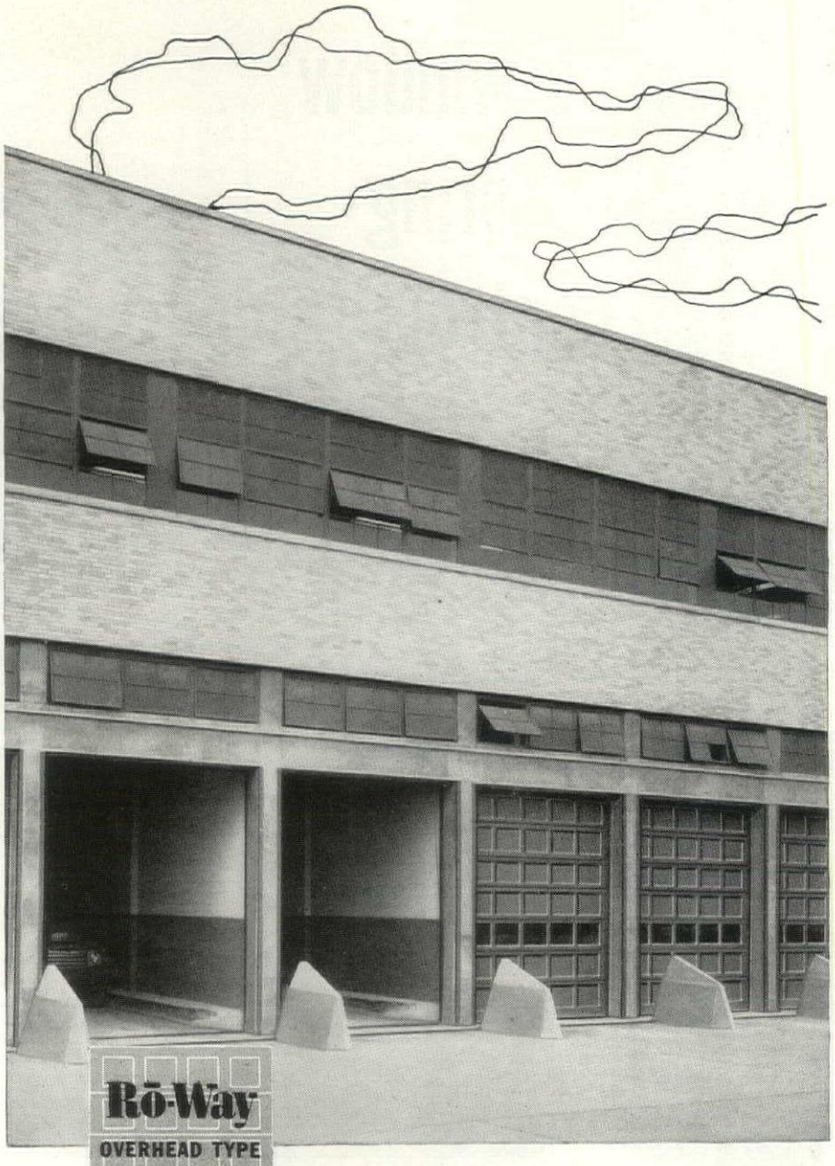
Since every building includes one or more large crane track support beams

continued on p. 202



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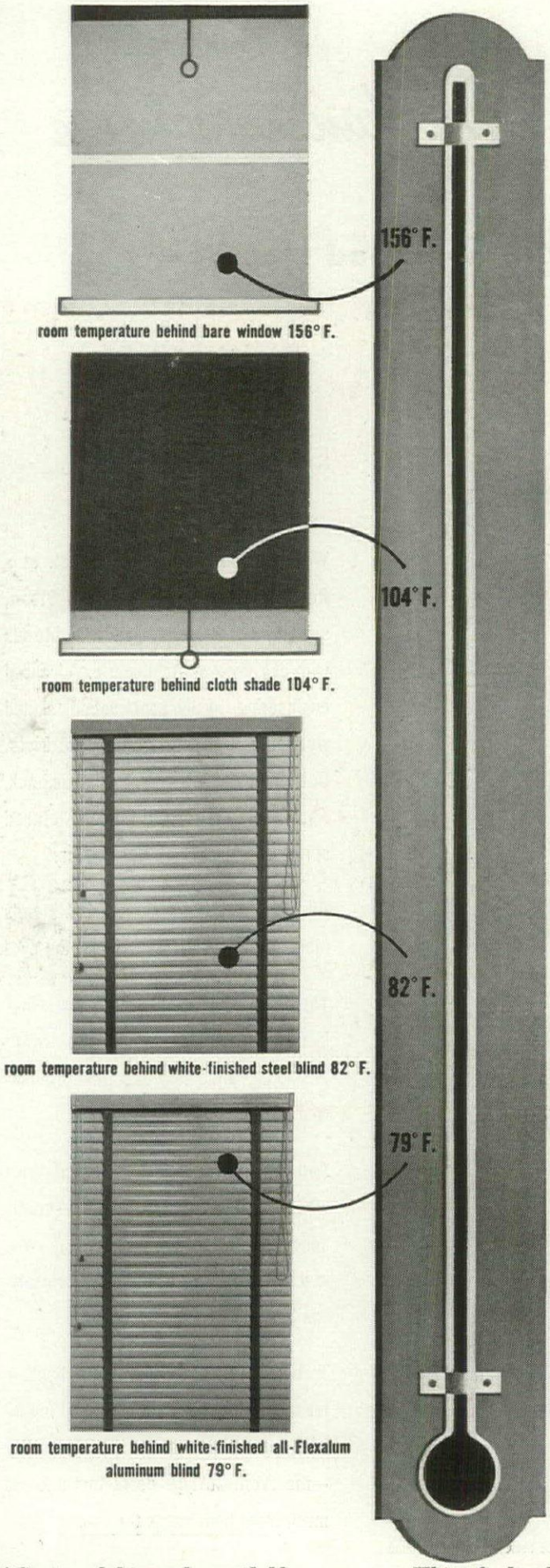
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room temperature behind bare window 156° F.

room temperature behind cloth shade 104° F.

room temperature behind white-finished steel blind 82° F.

room temperature behind white-finished all-Flexalum aluminum blind 79° F.

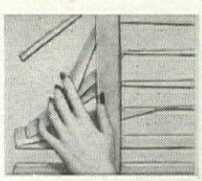
no window covering controls temperature like the all-*Flexalum* blind

An objective study by the Faber Birren Company* shows: the all-FLEXALUM aluminum blind controls room air temperature more effectively than any other window covering—including venetian blinds made with other materials. An even more dramatic difference was obtained by measuring the surface temperatures of unfinished FLEXALUM aluminum and raw steel exposed to solar heat... the FLEXALUM reading was 19° F. lower. This study points to all-FLEXALUM blinds as an effective way to reduce heat.

only all-Flexalum blinds have all these long-life and low-maintenance advantages:



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Spring-tempered aluminum slats—Snap back to perfect shape. Won't rust, chip, crack or peel.



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**Copies of this study available on request. Write for local Flexalum sources, free file of venetian blind information*

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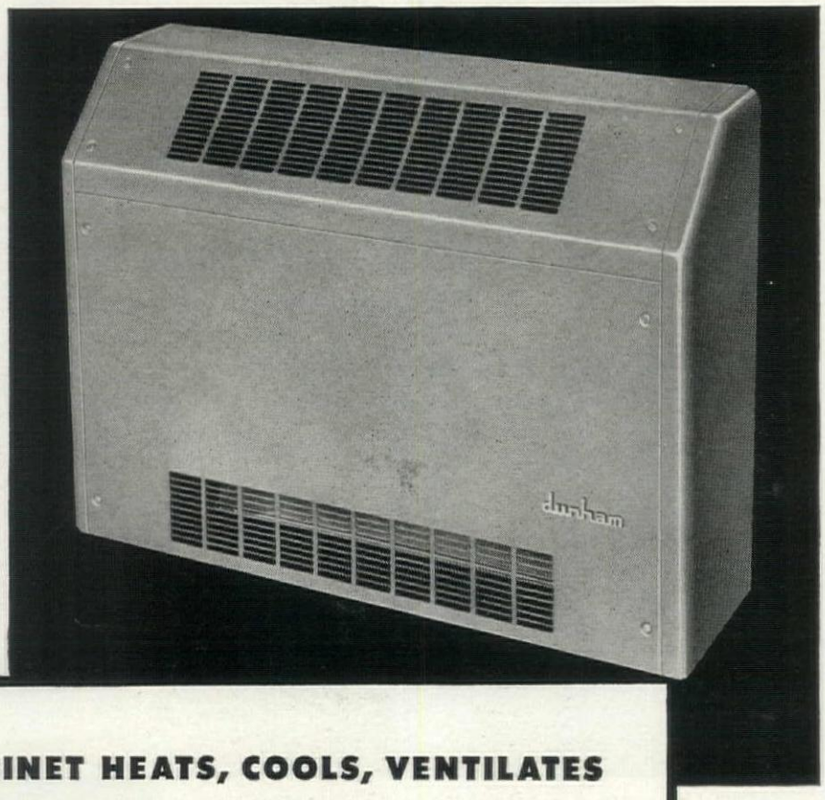
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Since there's no need for central system duct work, Dunham "Vari-Temp" costs less to install and maintain. A single riser, connected to the unit, supplies hot water for heating—chilled water for cooling. Units are also available for heating with steam coil, or heating and ventilating with non-freeze steam coil.

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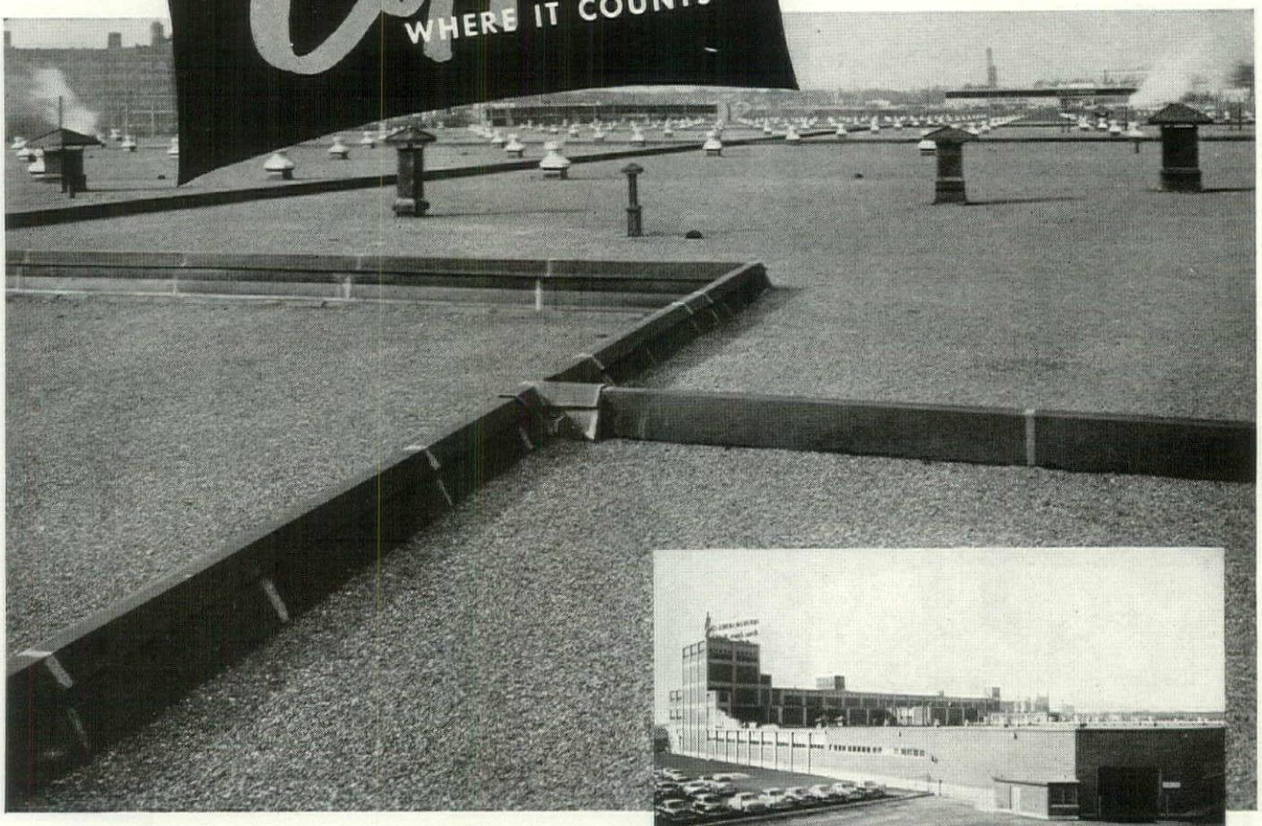
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ACRES AND ACRES of roof with 4,000 ft. of 4 ft. girth, 20-oz. Revere Copper expansion joints guarding against an invasion by weather. Non-rusting, enduring Revere Copper was also used for the fascia, ventilators and for flashing around the rising walls.

ARCHITECTS FOR THIS colossal flat roof were Ganteaume & McMullen, Boston, Mass. Roofing and Sheet Metal Work—Warren-Ehret Co., and L. William Ewing Company. Hughes-Foulkrod Company was general contractor, while the Revere Distributor was Merchant & Evans . . . all of Philadelphia.

When you have 8,000 squares of flat roofing, you have yourself a roof. That's what was involved in this Acme Market's roof that covers their bakery and warehouse. It stretches for 5 city blocks. And in Philadelphia the blocks are long! The vastness and very nature of the construction of this roof dictated copper in the vital spots. For this roof must endure for many years, require the absolute minimum in maintenance and do a thoroughly efficient job of protecting the foodstuffs stored beneath it. On top of that, with 4,000 ft. of expansion joints, the material used had to be rugged enough to withstand abuse yet readily workable and economical to install. Also it had to be able to shrug off year after year of contraction and expansion. Copper dovetailed into this pattern perfectly.

Actually, copper fits perfectly into many patterns. There is not another single metal or alloy that has all the outstanding construction characteristics of copper. Its endurance has been proven over centuries of use. It is readily worked into any desired shape. It solders to perfection. It requires no painting. And it can't rot or rust.

The end use restrictions on copper a while back did more to point up its importance in building construction than anything that we might print about it. Architects, builders and contractors told us at that time that there are places in building where there just is no substitute for copper.

Now, with restrictions on the use of copper ended there isn't any reason why your next job can't have the many benefits of Revere Copper. See the Revere Distributor nearest you about Revere Sheet, Strip or Roll Copper for flashing. Particularly ask him about the money-saving advantages of Revere Keystone Thru-Wall Flashing*. And, if you have technical problems, he will put you in touch with Revere's Technical Advisory Service.

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"Janitrol Unit Heaters take up no valuable floor space."

Statements by Mr. Burton Eller, Ast. Gen. Mgr., Miller Supermarkets, Denver.



All are important reasons for specifying ® Janitrol GAS-FIRED UNIT HEATERS

Good locations . . . well planned buildings . . . have contributed to the rapid growth of the Miller Super Market Chain. The same advantages of clean, even heat with a minimum of maintenance . . . the fact that Janitrol Unit Heaters adequately meet these needs without the use of valuable floor space . . . are all benefits deserving your consideration in the planning of any commercial or industrial buildings.

Surface Combustion's files of architects' reports show that savings of up to 50% on original installations over central heating systems are often possible.

In fact, many Janitrol Unit Heater installation savings have made it possible to build within exacting budgets even though other material and labor costs have increased.

If you are planning year 'round air conditioning, Janitrol Unit Heaters (Duct type) offer the same space and cost saving advantages as in straight heating jobs. These Janitrol duct heaters fit right into new or existing summer air conditioning duct work to conserve space. No fan or blower is required because the installation utilizes the cooling blower mechanism.*

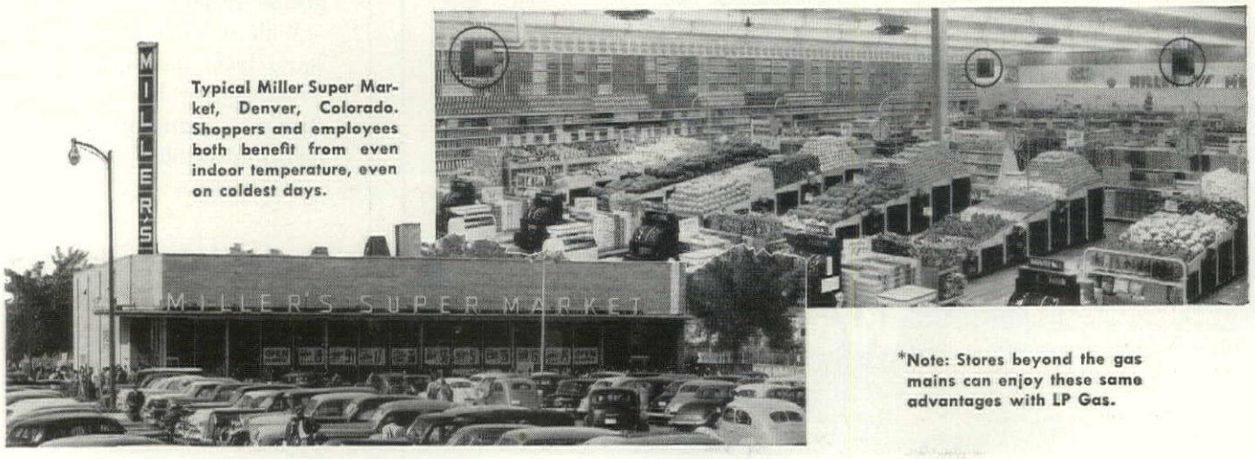
You are sure to find the following literature most useful in your current and future planning work:

(1) A.I.A. File on Commercial and Industrial Heating
(2) "Businessman's Blue Book of Better Heating"
(3) Revised Sweets Catalog Insert

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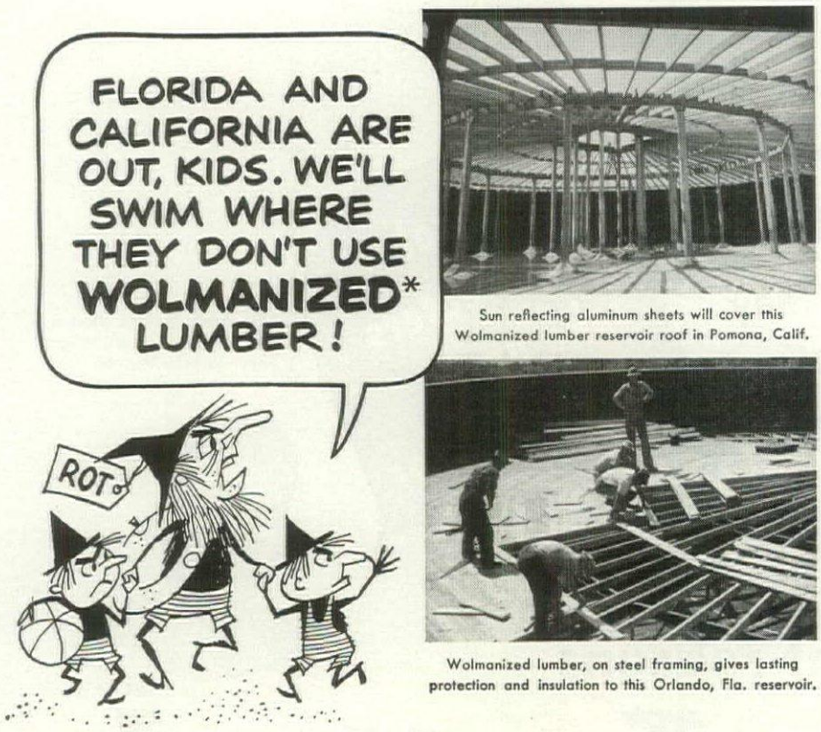
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Typical Miller Super Market, Denver, Colorado. Shoppers and employees both benefit from even indoor temperature, even on coldest days.

*Note: Stores beyond the gas mains can enjoy these same advantages with LP Gas.



Sun reflecting aluminum sheets will cover this Wolmanized lumber reservoir roof in Pomona, Calif.

Wolmanized lumber, on steel framing, gives lasting protection and insulation to this Orlando, Fla. reservoir.

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FORUM FORECAST *cont'd from p. 141*

Housing: economic trends point to 1 million units in 1954

Since 1946, the average number of new family dwelling units started each year has exceeded 1 million—more than 7.5 million in a seven-year period. This is an unprecedented performance.

Nonfarm Housing Starts, 1946-54

	Total	Private	Public
1946	670,500	662,500	8,000
1947	849,000	845,600	3,400
1948	931,600	913,500	18,100
1949	1,025,100	988,800	36,300
1950	1,396,000	1,352,200	43,800
1951	1,091,300	1,020,100	71,200
1952	1,127,000	1,068,500	58,500
1953	1,100,000	1,065,000	35,000
1954	**1,000,000**	**980,000**	**20,000**

Source: 1946-1952, Bureau of Labor Statistics; 1953 and 1954 estimated by FORUM.

The very heft of this volume has loudened the voices of the pessimists; it simply cannot keep up, they say, especially in face of the falling rate of family formation (see table, below). Net family formation *has* fallen off, and no doubt it will continue to slip or to move along at around half or less of the 1949 peak.

Family formation is important as a source of housing demand. But in times of high employment and good income it is certainly not the only source.

Moreover, the number of marriages (see graph, p. 140) and the net number of new families do not in any case measure the total demand for separate households—as witness the difference between family and household formations. Households are also made up of unmarried and widowed persons. The total requirement for separate accommodations is increased by the earlier earning power, the longer life span and greater social security.

With a drop of about 20% in new starts from the top building year 1950, housebuilding has already made a substantial adjustment to a lower level of family formation; and, in the years since

continued on p. 178

Net Family Formation, 1947-54

1947	579,000
1948	1,040,000
1949	1,257,000
1950	716,000
1951	581,000
1952	620,000
1953	600,000
1954	**575,000**

Source: 1947-1952, Census Bureau; 1953 and 1954 estimated by FORUM.

The Finishing Touch in a Fine Building



600 FIFTH AVENUE, NEW YORK CITY
Architects: Carson & Lundin, New York City
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Agent: Leonard J. Beck, Inc.
General Contractor: Turner Construction Co.
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IN keeping with advanced concepts of design and construction, Pratt & Lambert Paints and Varnishes were used in this imposing newcomer to the Fifth Avenue scene. And it is just one of hundreds of recent instances where P&L has been chosen for the finishing touch in all types of buildings throughout the land.

Each year, an ever-growing number of architects has come to look upon Pratt & Lambert as their dependable source for all interior and exterior finishes. They know that P&L quality is scientifically developed and jealously guarded by one of the finest and most extensive laboratories in the industry — that P&L colors are exactly right for easy-to-live-with decorative effects of distinction.

You are invited to call upon your nearest Pratt & Lambert Architectural Service Department any time for assistance in specification writing and color planning.

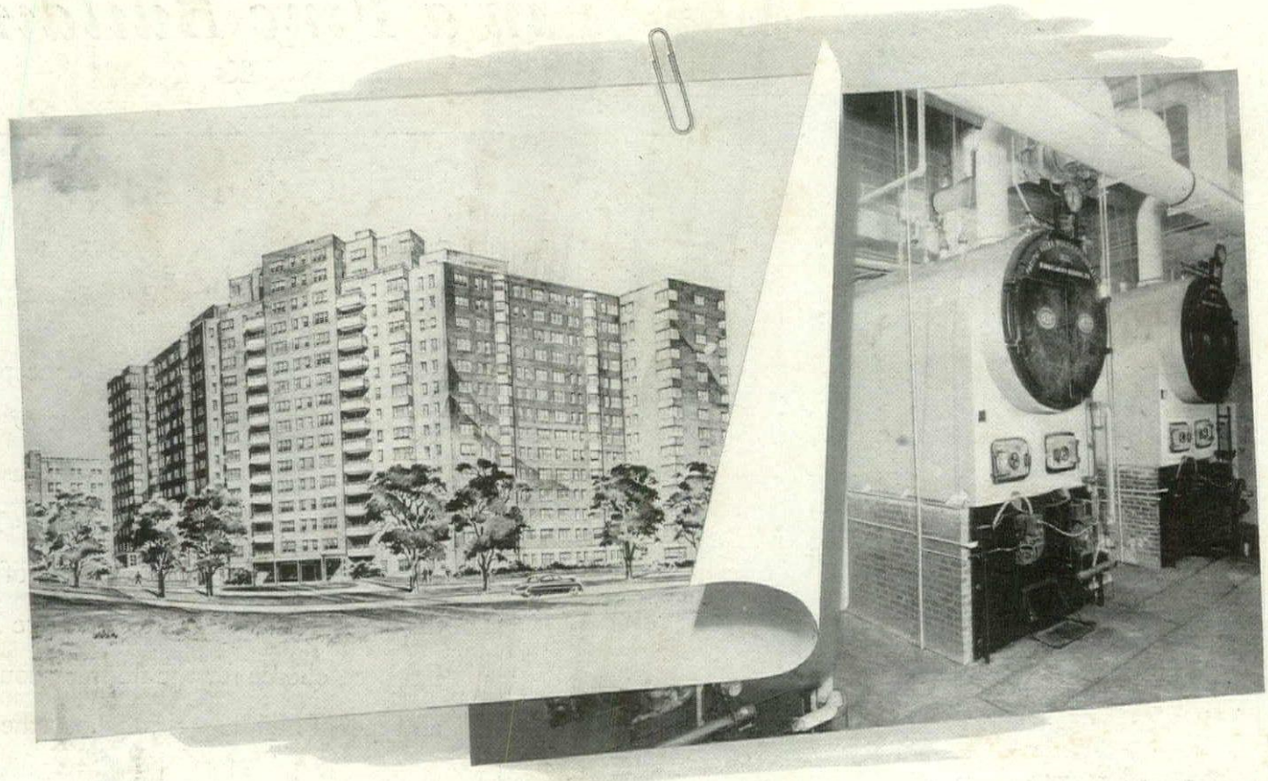
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Baltimore's Broadview (drawing shown above), with 465 apartments and four penthouses, is unequaled for luxury and convenience. Tenants are provided with catering services, public dining rooms, private garages, special entertainment suites, efficiency apartments for week-end guests.

To supply luxury heating comfort *plus* top economy, Broadview planners* chose Pacific Boilers with Jet-action Circulation:

Because of the special design of Pacific Circulating Connections which join water leg and heating tubes, hot water and steam from the water leg are given a jet-like increase in speed. This high-speed stream is trained directly on the heating tubes. Insulating steam bubbles on the tubes are swept into motion, *kept* in motion.

The result of this continuous turbulence is maximum heat transfer. Broadview owners get immediate response when changes in building temperature are desired, more efficient use of fuel.

Why not take a tip from Broadview planners and see how Jet-action Circulation can benefit *your* installations? Your local Pacific representative is ready with complete information on Pacific Boilers for every use. Call him today!

*Architects: Palmer, Fisher, Williams & Nes; Mechanical Engineers: Egli & Gompf; General Contractor: John K. Ruff, Inc.; Mechanical Contractors: H. E. Crook Co., Inc.

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How West Coast Hemlock is changing American kitchens

Discriminating planners of fine homes are discovering the warmth and distinctive beauty of wood for interior uses. As a result, kitchens equipped with wood cabinets acquire a unique character.

One of the woods responsible for this trend is Weyerhaeuser 4-Square West Coast Hemlock, a superb softwood found only in the mild, even climate of the Pacific Northwest.

The soft, silvery sheen of this Hemlock softens the severity of gleaming modern appliances. Straight grain, uniform texture, and freedom from pitch add to the wood's attractiveness.

Fortunately, West Coast Hemlock is versatile. It may be used both inside *and* out. Because it is light to handle . . . easy to cut and shape . . . tough and durable, with exceptional nail-holding power, Weyerhaeuser 4-Square West Coast Hemlock is also ideal for such uses as framing and sheathing. Its outstanding capacity to take and hold paint or natural finishes makes this West Coast species excellent for many other purposes, from siding to paneling—from ceiling to flooring.

When you specify materials for clients who appreciate fine woods, consider the distinctive beauty of Weyerhaeuser 4-Square West Coast Hemlock.

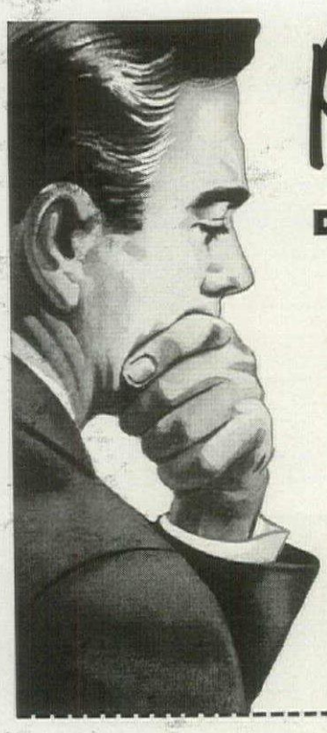
Descriptive literature on this abundant "Ability Wood" will be mailed on request.

PROPER PROCESSING OF HEMLOCK

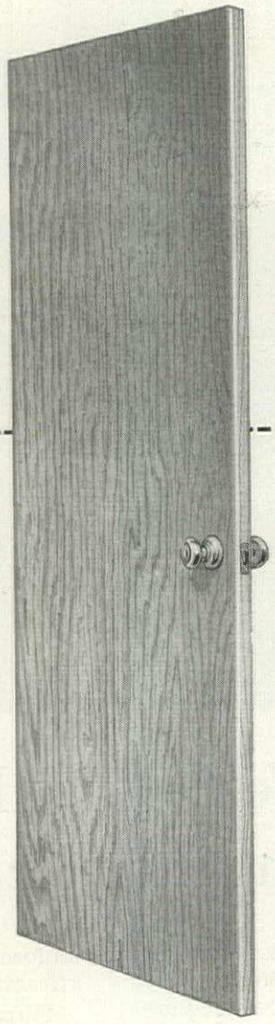
● Through scientific logging, accurate sawing, controlled kiln seasoning, precision surfacing, proper grading, careful handling and shipping, Weyerhaeuser provides this abundant "Ability Wood" in a wide range of 4-Square West Coast Hemlock lumber products.

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1950, it has made much progress in adapting itself to other sources of demand.

What are these other sources?

▸ The *need for more space* is one. Families are growing in size with a phenomenal output of babies, and especially of second, third and fourth babies (see table, below). The old houses in many cases will not do.

▸ *Mobility* (see table, p. 140) is another important source of demand. Literally hordes of families do not want to live in the noisy, congested centers of cities, but prefer to take advantage of the opportunity that modern transportation gives them to live where they choose.

▸ *New technologies* also spur demand. More attractive designs, more convenient arrangements, more and better equipment, better all-around adaptation to modern living requirements provide a major source of demand. This is industry's great contribution to sustained demand. It has been possible to sell people out of even good old houses because the new ones can be so much more satisfactory. This is also industry's greatest opportunity to assure continuance of its successful activity.

A boost from rehabilitation

Programs to rid cities of unfit old houses can help prevent a decline in total housing demand during an economic setback. Strict housing and occupancy laws and firm enforcement will force vacancy upon houses that can no longer be economically repaired. The exercise of the police power can force their removal from the market—and at the same time insure against an unmanageable surplus in a period of recession. Local law enforcement programs, now increasing in number, are important economically as well as socially.

So long as people have jobs, so long as they retain their confidence in the future, so long as industry continues to increase the attractiveness of its product,

continued on p. 182

Birth Rates by Birth Order, 1940-51

Registered live births per 1,000 female population 15-44 years of age

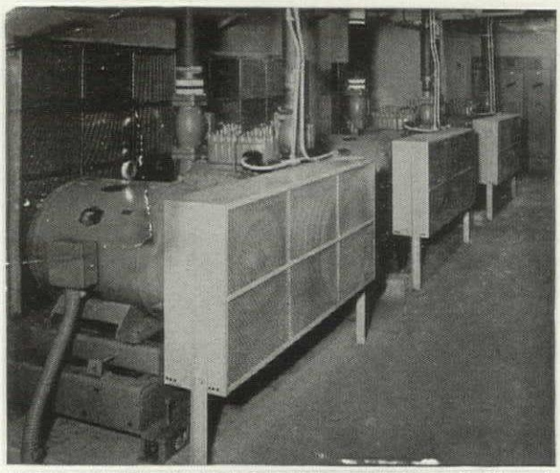
	1951	1949	1946	1943	1940
First child	34.5	36.0	37.6	33.2	27.5
Second child	32.2	31.8	27.2	24.4	18.6
Third child	19.6	17.0	14.1	12.8	10.2
Fourth child	10.0	8.4	7.5	6.9	5.9
Fifth child	5.1	4.5	4.3	4.1	3.7
Sixth child and over	8.0	8.0	7.9	8.0	8.1

Source: US Department of Health, Education and Welfare; 1951 estimated by FORUM.



MOVIE STARS SHOP IN COMFORT at the new Robinson's Beverly. Designed by architects Pereira and Luckman, and architect Charles O. Matcham, this modern department store is air conditioned all year-'round by a Worthington system. Installation by Kilpatrick & Co., Alhambra, Calif.

Year-'round air conditioning in Beverly Hills' first department store



HEART OF THE AIR-CONDITIONING SYSTEM at Robinson's Beverly is this Worthington Freon-12 compressor installation. The system circulates 360,000 cfm of heated or cooled air.

Featuring two-level parking and an outdoor garden lounge, Beverly Hills' first department store, the new Robinson's Beverly is completely air-conditioned every day of the year.

Fan and coil units throughout the store are used for both heating and cooling. Flow of steam or chilled water is controlled by change-over valves actuated by four thermostats on each floor.

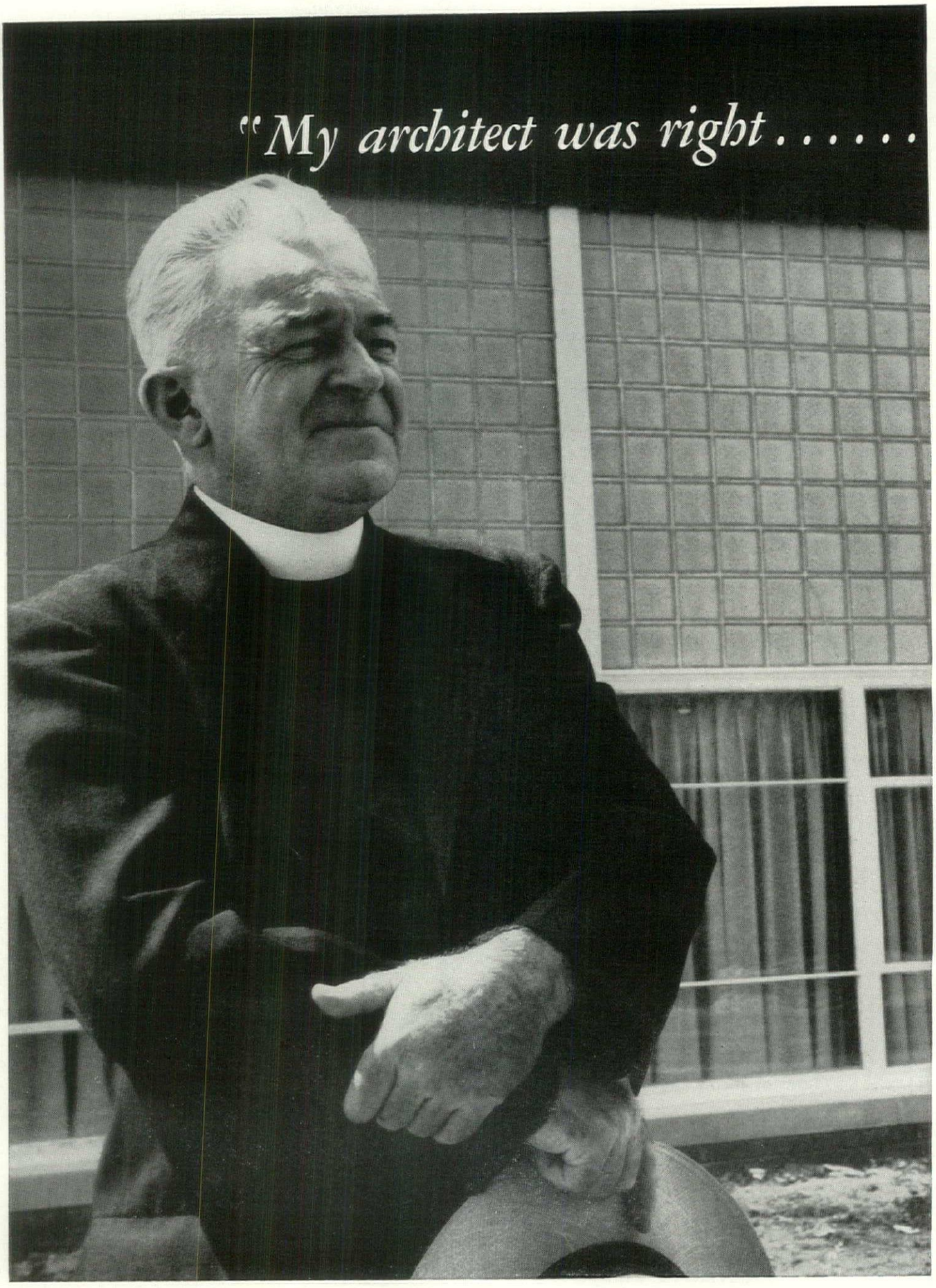
Chilled water for the air-conditioning system is supplied by three Worthington 125-hp Freon-12 reciprocating compressor units. The Worthington system was chosen by architects Pereira and Luckman, and architect Charles O. Matcham. Said Pereira and Luckman: "All products and equipment were judged in terms of the contribution they make to a smoothly functioning facility for the distribution of merchandise. Ease and economy of maintenance were also major factors in the choice."

For over half a century, Worthington-engineered air conditioning installations have been serving business and industry. Today, the complete Worthington line is ready to meet any assignment, large or small. So when you think of air conditioning—think of Worthington. Get in touch with your nearest Worthington district office or write to Worthington Corporation, Air Conditioning and Refrigeration Division, Section A.3.55, Harrison, New Jersey.

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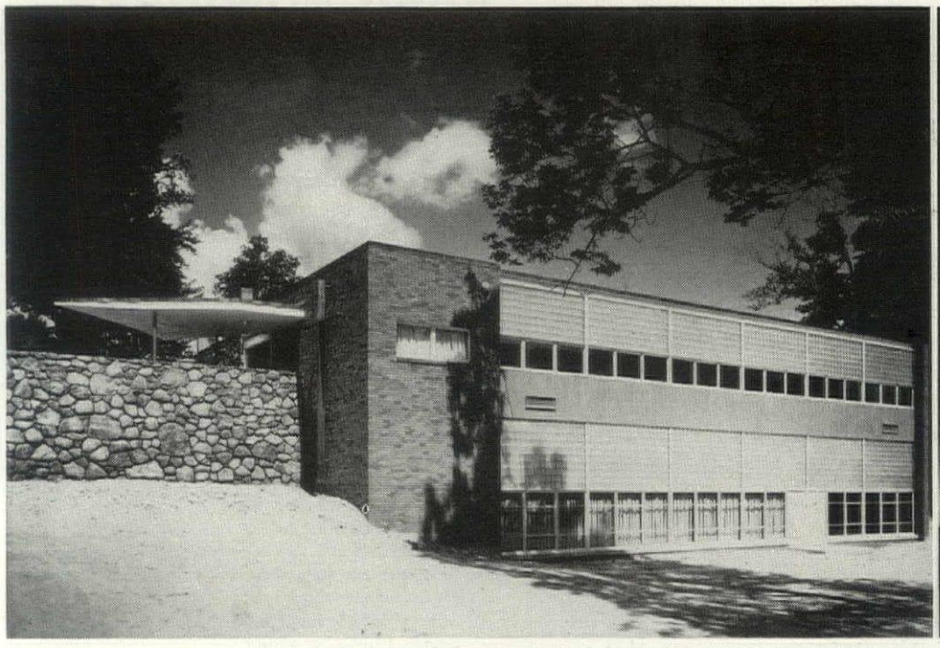
Be sure *you* know the PC Glass Block story before you build or remodel your next school. No other building product will give your client so much for his money.

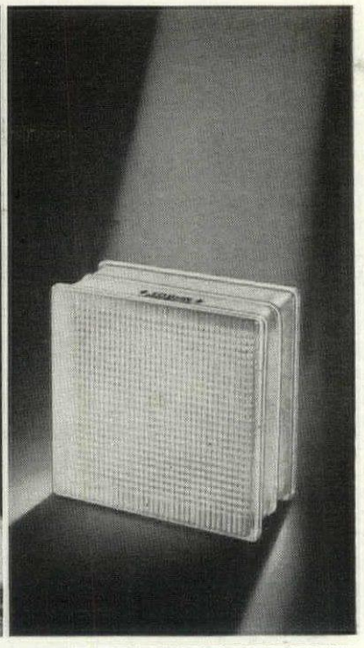
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FORUM FORECAST *continued*

price-wise and quality-wise, a good housing market will persist. Such a market should certainly persist in 1954, though the number of new houses started is likely to be somewhat less than that of 1953.

No. 1 problem: frozen interest rates

With the recent rate of building, a true mass market has been developed. Mass markets thrive only on ample credit and low cost. Government-insured and guaranteed loan programs, through FHA and VA, by cutting through the restrictive limits of state mortgage and investment laws and by making low down payments and low monthly payments possible, have largely contributed to the creation of the mass market and the type of efficient project builder who can provide the kind of houses it wants.

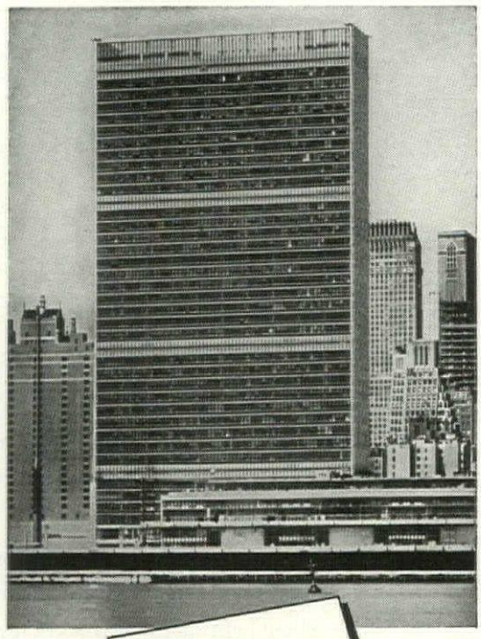
Yet for three years these programs have not been working well. They have not worked well because, depending on private financing as they do, they have not offered an investment yield that is competitive with other offerings in the investment market. This situation has resulted from an anomalous and contradictory government policy. Sponsoring a free money market generally, it has at the same time prevented interest rates on FHA and VA loans from being adjusted to the market.

The situation continues. It can be cured only by legislative changes, permitting a freer movement of interest rates, or by a vast program of public credit (which from a practical point of view is not to be contemplated), or by an easier money market.

Some easing of the general money market during the year ahead seems certain, continuing a trend already begun. But whether it alone will be sufficient to bring the VA and FHA terms into better relationship to the whole financial market is difficult to say.

This really artificial element, therefore, may reduce 1954's volume somewhat under what might otherwise be fairly safely forecast. Despite the uncertainty created by government policy, the resiliency and ingenuity of the housebuilding industry and its financing agents can be counted upon to find now, as many times in the past, at least a partial answer for its difficulties. The investment funds will be present. The problem is only to find the way to them.

If a fairly satisfactory answer is found, another better-than-a-million-house year is ahead. If the problem persists, the volume may be less; but in any case it is likely to exceed 900,000.

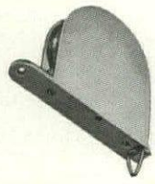


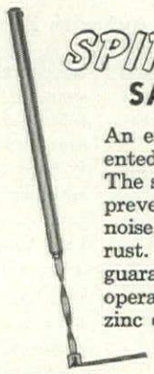
18,608

Caldwell Clock-Spring SASH BALANCES*

CALDWELL Clock-Spring sash balances were chosen for the United Nations Secretariat Building because . . . Caldwell guarantees smoother, quieter operation of double hung windows. Yes, they are guaranteed for the life of the building. They can be adjusted with a screwdriver but they cost no more. Installation time is reduced by at least 10 minutes. And as an architect, you'll appreciate the design possibilities and material savings that can be effected through the use of narrow mullions and trim.

*CXT balances for 60 lb. sash, used in the United Nations Secretariat Building, are just one size in Caldwell's complete line. For further information see Sweet's Architectural File, Section 17a/Ca, or write.





SPIREX spiral-spring SASH BALANCES

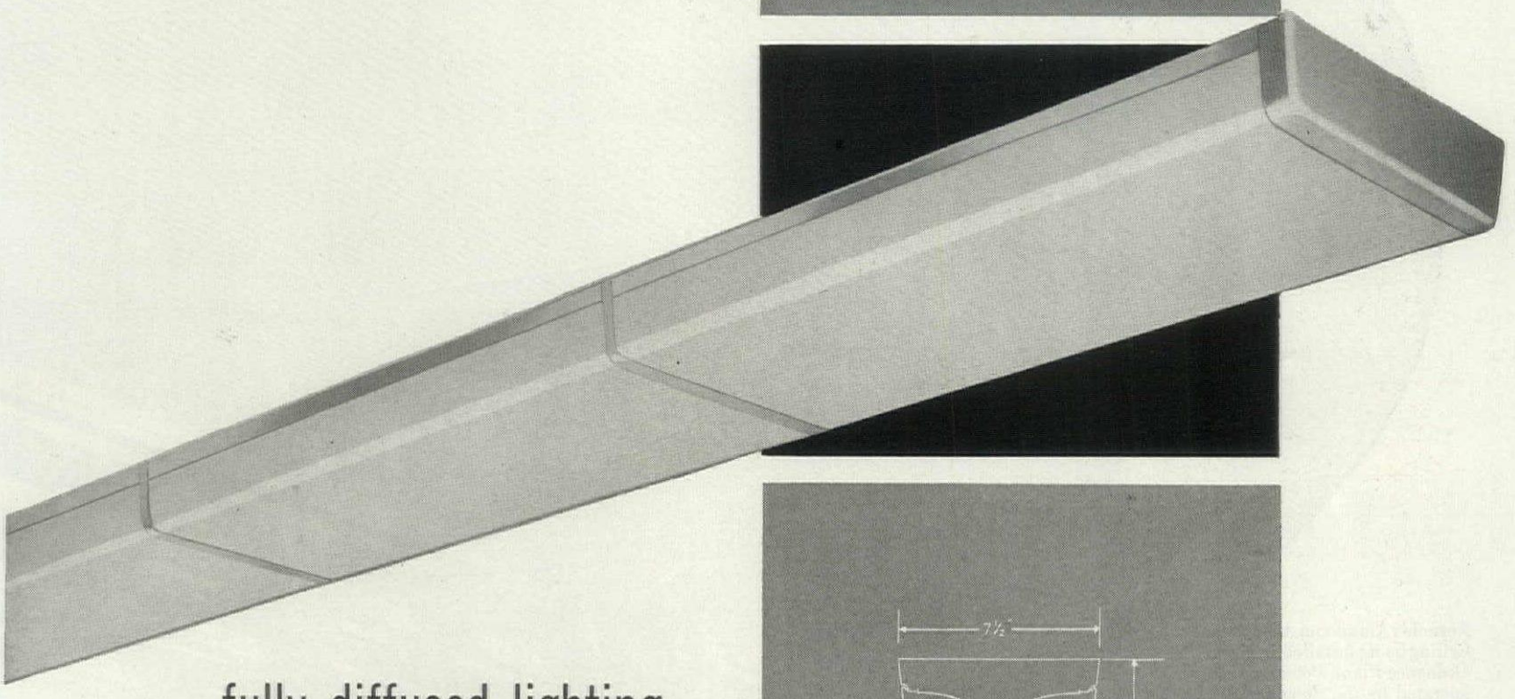
An exclusive feature is the patented clock-steel, flat wire spring. The spring coils are separated to prevent friction and eliminate noise, specially coated to prevent rust. Brass bearings are used to guarantee smooth, trouble-free operation. All other parts are zinc or cadmium coated steel.

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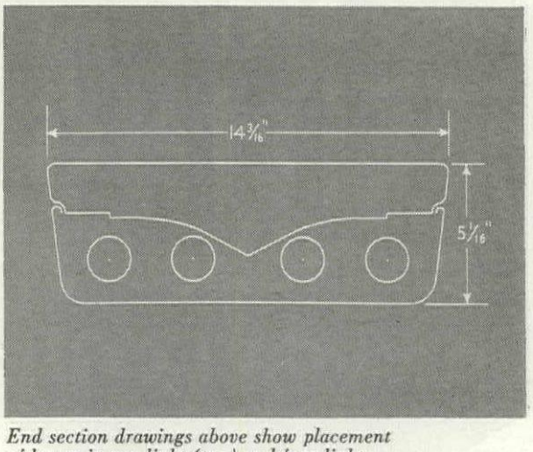
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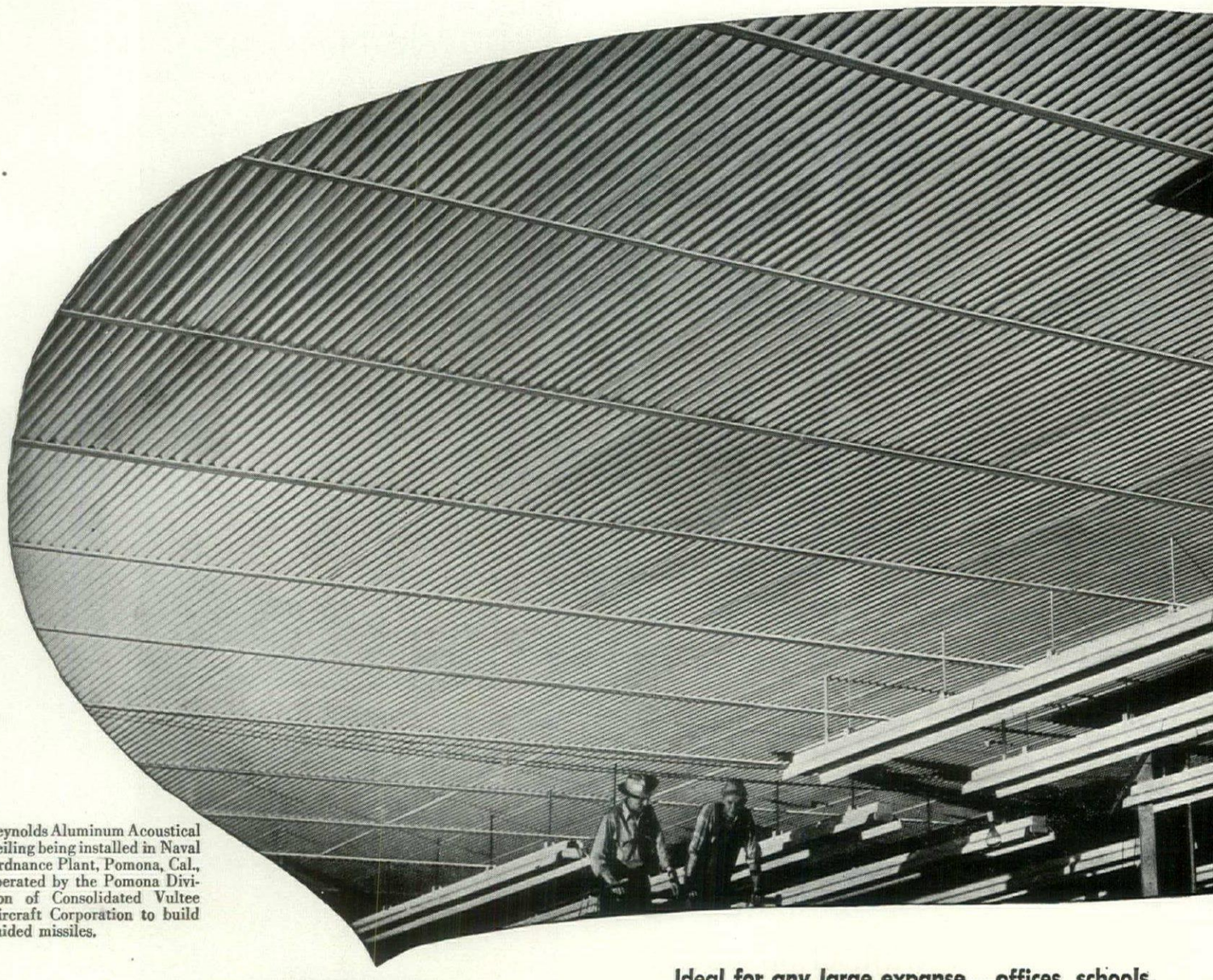


End section drawings above show placement of lamps in two light (top) and four light versions of Sightron fixtures.

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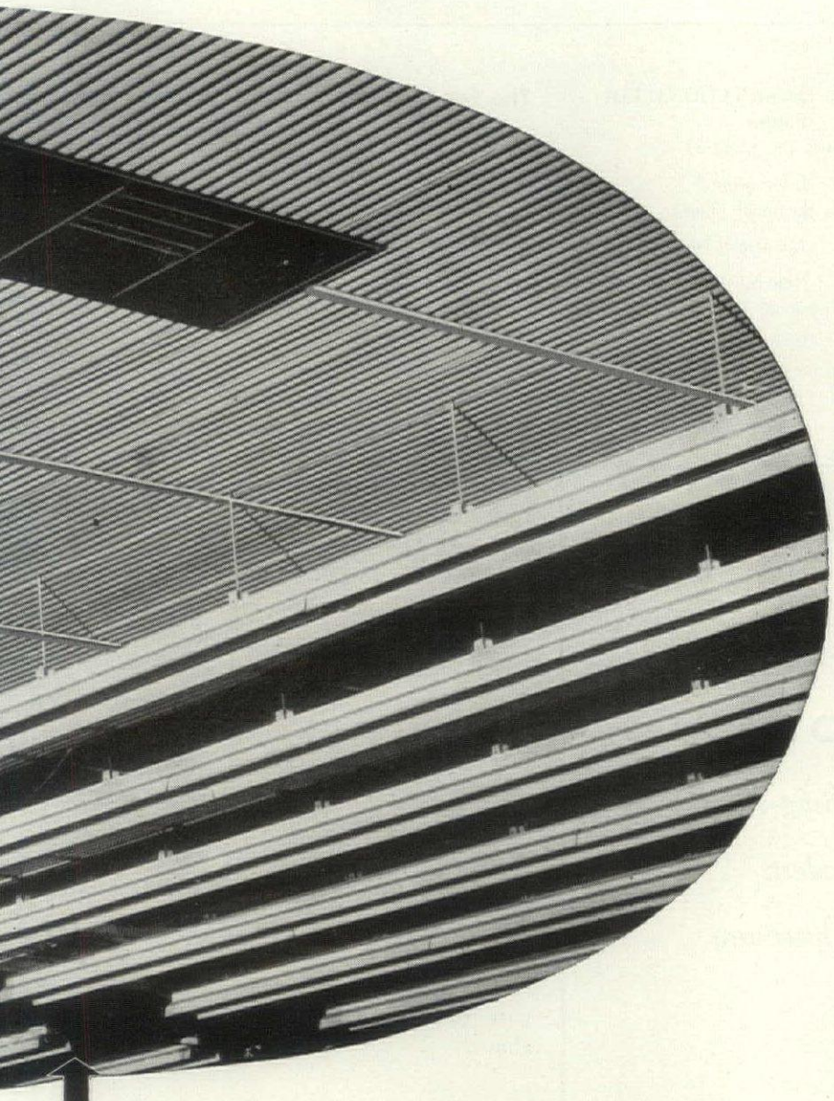
Effective noise reduction, with the increased efficiency and safety it promotes, can now be brought to any large area ...industrial, commercial or institutional. This can be done swiftly, with minimum work interruption and no alteration of overhead utilities...at amazingly low cost. And the result is as distinctively modern in appearance as it is exceptional in performance!

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CALIFORNIA: Pacific Acoustics, Los Angeles; Sound Reduction, Oakland.

COLORADO: Danco, Inc., Denver.

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DISTRICT OF COLUMBIA: T. M. Woodall, Inc., Takoma Park.

FLORIDA: Standard Insulation, Fort Lauderdale; Cliff Haller, Orlando.

GEORGIA. Lewis & Co., Atlanta.

ILLINOIS: Anning-Johnson Co., Chicago.

INDIANA: Brown-Anning-Johnson Co., Indianapolis.

IOWA: Anning-Johnson Co., Des Moines.

KENTUCKY: Braun Acoustical Co., Louisville.

LOUISIANA: Walker Lloyd, Baton Rouge.

MAINE: Edw. F. Byrnes Co., Portland.

MARYLAND: Limbach Co., Hagerstown.

MASSACHUSETTS: Edw. F. Byrnes Co., Boston.

MICHIGAN: Nichols Co., Detroit; Harold R. Sobie Co., Grand Rapids.

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MISSOURI: Hamilton Co., St. Louis; Stokes Co., Kansas City.

NEW JERSEY: Woolsulate, East Orange; W. M. Moyer Co., Quakerstown.

NEW MEXICO: Welch-Erwin, Albuquerque.

NEW YORK: Albany Acoustical Corp., Albany; A. P. Madden Co., Syracuse; Davis-Fetch, Buffalo, Rochester, Jamestown; Wm. J. Scully Corp., New York.

N. & S. CAROLINA: Bonitz Insulation, Greensboro, Columbia.

OHIO: Gellin Co., Cleveland; J. H. Archibald Co., Cincinnati.

OKLAHOMA: Bath Dist. & Eng. Co., Tulsa, Oklahoma City.

OREGON: Steward Griffith Co., Portland.

PENNSYLVANIA: Limbach Co., Pittsburgh; W. M. Moyer Co., Philadelphia.

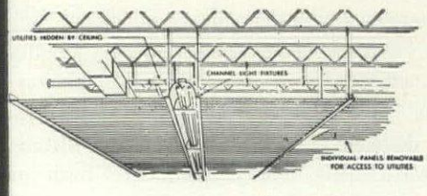
TENNESSEE: Alexander Co., Memphis; John Beretta Co., Knoxville; Workman Co., Nashville.

TEXAS: C. F. Schilling Co., Houston; Gen'l Supply Co., San Antonio; Acoustic Builders Co., Dallas; Welch-Erwin, El Paso.

VIRGINIA: McL. T. O'Ferrell & Co., Richmond.

WASHINGTON: G. D. Bradley Co., Seattle.

WISCONSIN: De Gelleke Co., Milwaukee.



TYPICAL INSTALLATION

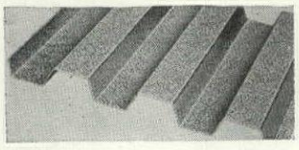
Panels are supported on aluminum angles and T-sections. Sound-absorbing material is laid on panels or attached directly to ceiling.

ADVANTAGES OF THE REYNOLDS ACOUSTICAL SYSTEM

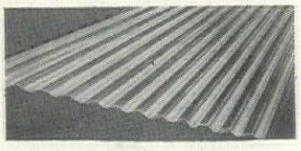
- **Low Cost.** Low material cost; fast, labor-saving installation.
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- **Unlimited Access** to utilities... any section movable at will.
- **Low Maintenance.** Rustproof, non-staining panels removable for cleaning.
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For full data on these products call the nearest Reynolds office, listed under "Building Materials" in classified phone book of principal cities. Or write Reynolds Metals Company, Building Products Division, 2020 So. Ninth Street, Louisville 1, Kentucky.

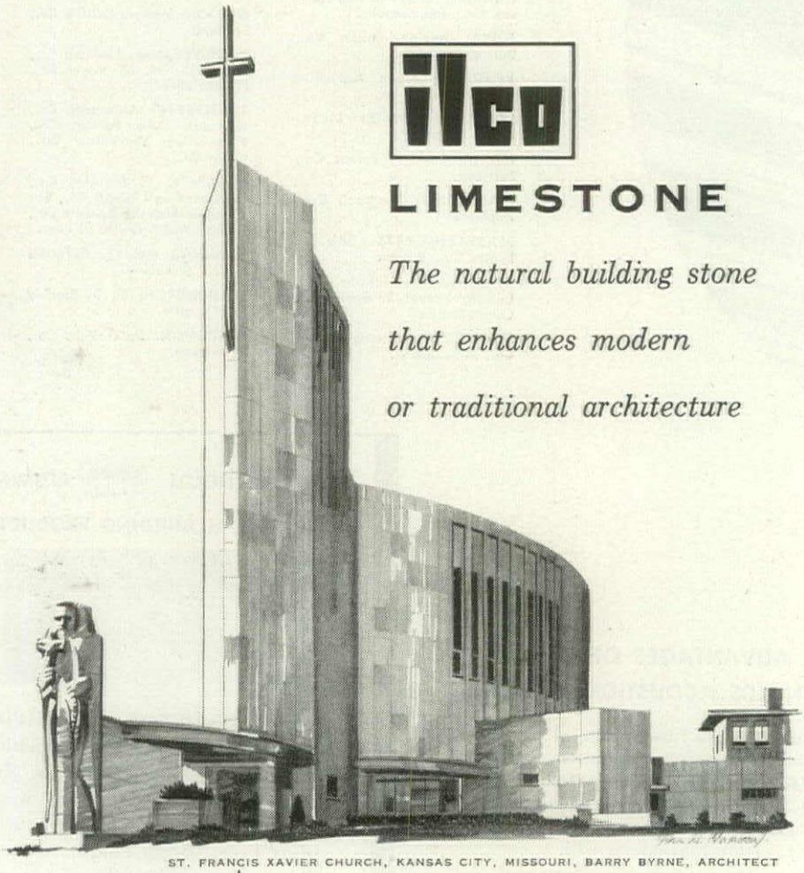
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	TRADITIONALISM	INTERNATIONALISM
PERIOD	Past	Future
	(Neither achieves the present)	
PLACE	National	International
	(Neither regards the local place)	
PROCESS	Academic (archaistic)	Academic (dogmatic)
FORM	Historic rules	New rules
	(Neither allows personal freedom)	
FUNCTION	Fully compromised	Partially compromised
	(Neither frees functions of esthetic rules)	
EXPRESSION	Absent	Absent

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The family fight

From the public's point of view Internationalism, Empiricism and all the little "isms" clustering around them are one phenomenon—Modern, or as the case may be, "Modernistic." The split across both profession and public separates on the one hand Eclectic, Revivalist and Traditionalist; and on the other Internationalist, Empiricist and Modernistic. Thus both the sincere Modernist and the sincere Traditionalist are constantly finding themselves in bed with people whom they regard as very unsavory characters. To call an Empiricist a "modernistic architect" is more insulting than to call one's mother a bitch. The Traditionalist-Modernist fight—because its issues are so disparate and confused—usually appears more as an *opéra bouffe* than as a drawn battle. Its farcical nature is further demonstrated by the fact that the ultraconservative Traditionalist faction and the ultradogmatic International Stylists are, in every technically significant respect, more alike than unlike. Their only real divergence is in appearance.

Again with the criteria here used as a guide to style, the two warring camps compare somewhat as outlined in the table above.

Two kinds of Selectivists

Because of the very great similarities between them, it will be useful to be able to refer to Traditionalism and Internationalism together. The qualities they share in common are: a dependence on theory, i.e., on "a more or less plausible . . . general principle offered to explain a phenomenon" (Webster), in this case style; and a dedicated and unquestioning attitude toward their total adjustment. Both of these qualities involve the *selection*, out of a welter of possibilities, of certain tenets, for the purpose of simplifying and anchoring their work and professional behavior patterns. Thus *Selectivism* would appear to be an appropriate word to signify both.

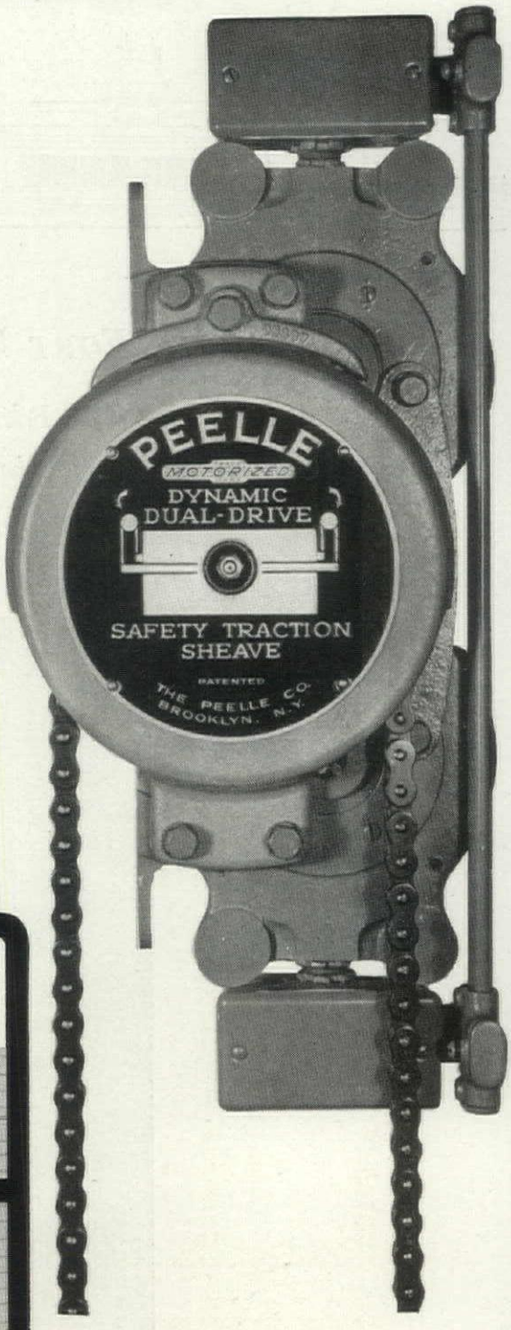
In order to appreciate the fight between these two kinds of Selectivists, it seems necessary, first of all, to define the meaning of style. The word style means a characteristic and distinctive mode of construction. But the real impact of style, on the person seeing architecture, is largely influenced by the environment by

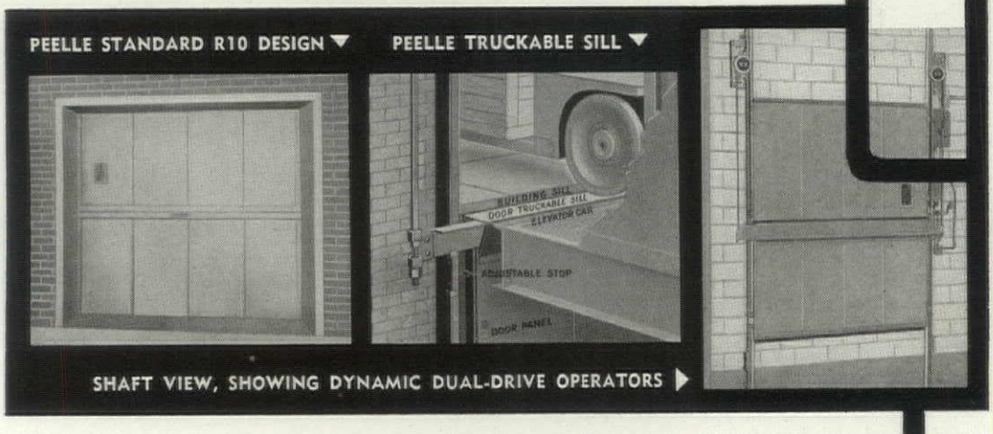
continued on p. 190

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***Peelle** has maintained its leadership by constant development of its product and its guarantee of dependability and long, maintenance-free service.*

***Architects** can assure their clients of the use of the best freight elevator door by specifying that the freight elevator doors shall be manufactured and installed by The Peelle Company, 47 Stewart Avenue, Brooklyn, New York. This will prevent down-grading of specifications by the use of "Peelle-type" doors.*





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   - Prevents canting
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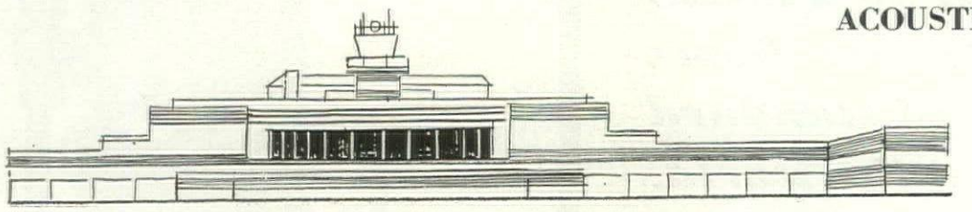
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A detail and specification sheet for manual and motorized doors will be mailed upon request.



GREATER FORT WORTH INTERNATIONAL AIRPORT, Fort Worth, Texas

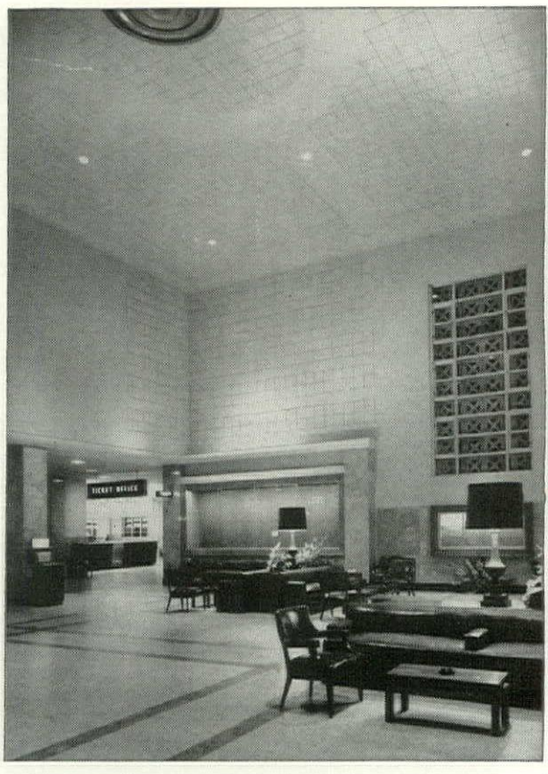
Architect: Joseph R. Pelich

General Contractor: Thomas S. Byrne, Inc

Acoustical Contractor: Chas. F Williams Co.



In addition to providing distinctive beauty, efficient Travertone ceilings permit easy hearing of arrival and departure announcements in the terminal's main lobby.



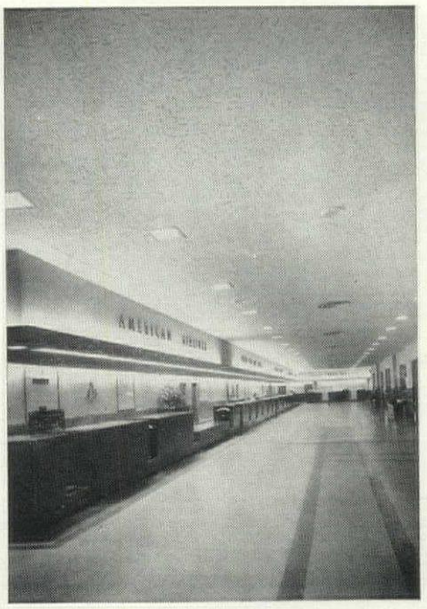
Proper acoustics were assured for the spacious main lobby of the terminal by installing Travertone not only on the ceiling area but on sections of the walls as well.

At the new Greater Fort Worth International Airport, two distinct sound-conditioning problems prompted the use of two different acoustical materials—Armstrong's Travertone and Cushiontone®.

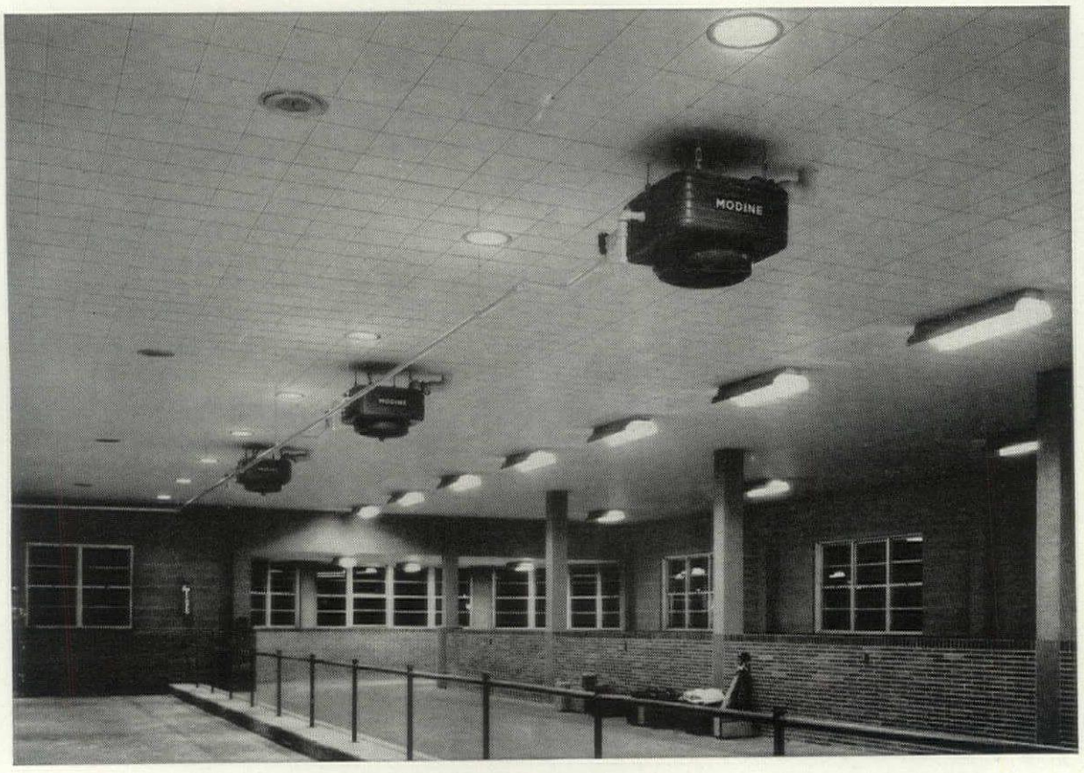
In the main concourse, lobby, and ticket wings of the terminal building a distinctively beautiful ceiling appearance was as important as acoustical efficiency. Armstrong's Travertone offered both features, as well as complete incombustibility.

Economy was the important factor in sound conditioning the lower floor of the terminal where large work spaces are located. Cushiontone, a perforated wood fiber tile, was selected. The low initial cost and easy maintenance of Cushiontone permit economical treatment of large areas without any sacrifice of acoustical efficiency.

Travertone and Cushiontone are two of Armstrong's complete line of sound-conditioning materials. Call in your Armstrong Acoustical Contractor for helpful advice, with no obligation, on Armstrong's Acoustical Ceilings. With a wide range of special product features to select from, there's one material that best meets the requirements of every job. For the free booklet, "How to Select an Acoustical Material," write directly to Armstrong Cork Company, 4209 Rooney Street, Lancaster, Pennsylvania.

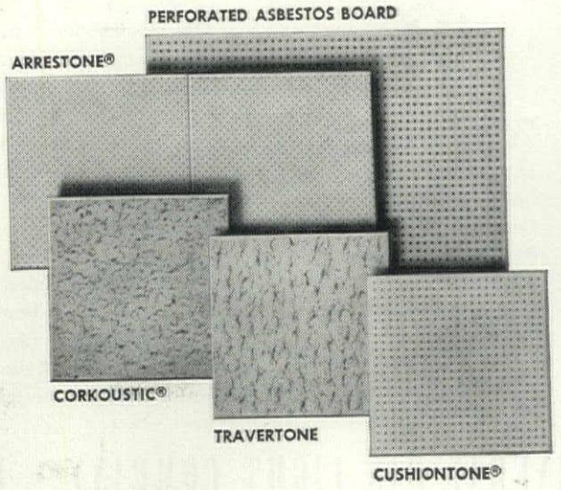


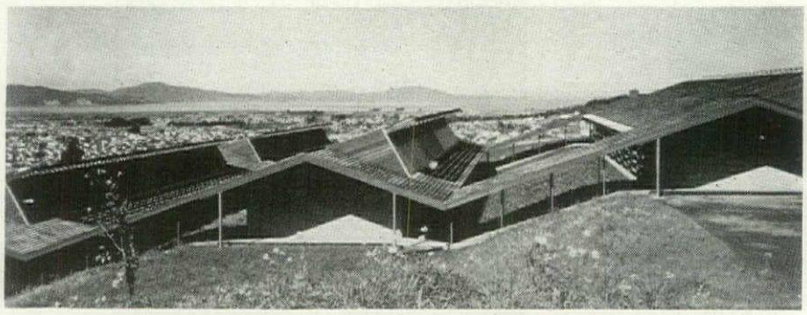
Over 200 feet of ticket counters are kept comfortably quiet even at the busiest times by ceilings of noise-absorbing Armstrong's Travertone.



Large work spaces like this baggage area require sound conditioning that is moderate in cost, high in acoustical efficiency, and easy to maintain. Here, economical Armstrong's Cushiontone was used.

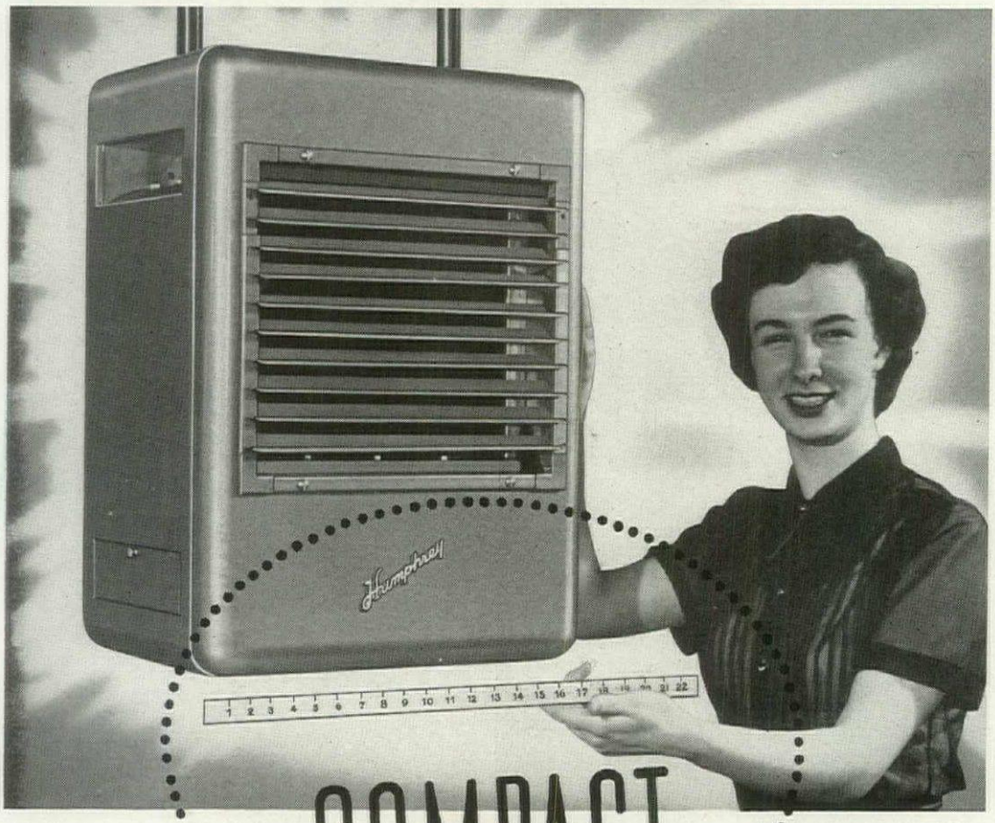
ARMSTRONG'S ACOUSTICAL MATERIALS





Partridge

***"The real impact of style** on the person seeing architecture is largely influenced by the environment by which an individual building is surrounded."—Mira Vista School in Richmond, Calif. by Architect John Warnecke.*



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The 40-G has a cast iron, raised port, universal type burner; Humphrey exclusive stainless steel, non-clogging pilot; exclusive tilting front; new six-flue heat exchanger of special heat and corrosion resistant high tensile alloy steel and positive, dependable safety controls. Approved for 6" clearance at top and sides.

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KENNEDY ON ARCHITECTURE *cont'd.*

which an individual building is surrounded.

A satisfactory environment is like a forest. The total forest is a complex affair, dependent for its character on every aspect of climate, on cross-fertilization, on death, on decay, and on cycles of new growth. All its aspects are interrelated. The typical forest tree is warped and twisted by its relationship to its neighbors. Roots interconnect, branches touch, the sun is let in haphazardly. One seldom finds a specimen tree in such an environment. The well-rounded tree comes from open fields, or a more symmetrical environment.

Houses come in "forests." To all intents and purposes they are never isolated. The person viewing them brings with him, in his cultural baggage, a series of invisible houses with which they are compared. And, in any case, they are usually cheek by jowl.

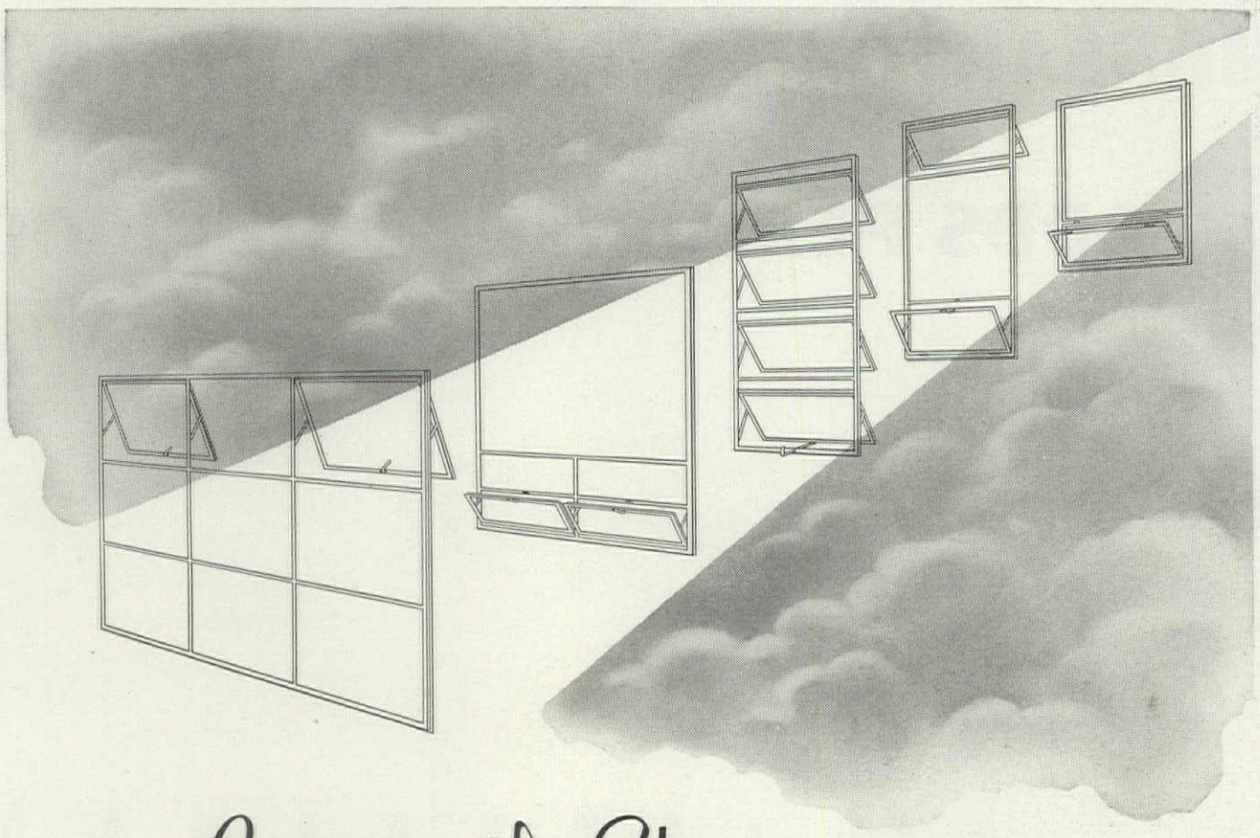
The building forest

The building which is one with its environment might be described as of its time; also as warped and modified by its neighbors, its position, its climate and its style. This sort of compromise with environment was typical of the old continuative tradition. One has only to compare the Greek Revival architecture of New England and the Southeast to appreciate the sea change the original concept went through in becoming adapted to its new environment.

The Selectivists agree in regarding the forest as an orderly arrangement of specimen trees, rather than as the tangled and interconnected network of warped and anonymous units which it is. They reserve the right to pick one tree out of the center, to develop, feed, prune and generally manicure it, and still claim that it is of the forest. This sort of approach is highly artificial, and as a result those environments created by Selectivists are characteristically stage sets. Their artificiality is the result of the dogmatic insistence on one style, or type of tree, impossible in a real forest.

To pick out a single style and develop it for its own sake, regardless of environment, or period, or place, as the traditional type of Selectivist does, is to postulate tradition as a series of disconnected specimens. History is used as a grab bag full of tricks to be dipped into at will, or as a forest full of dying trees, which in

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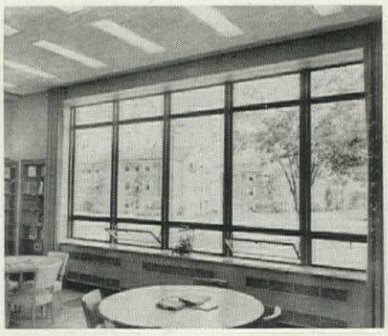
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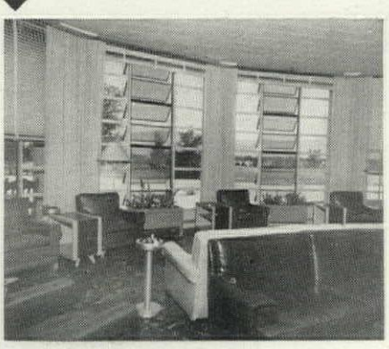
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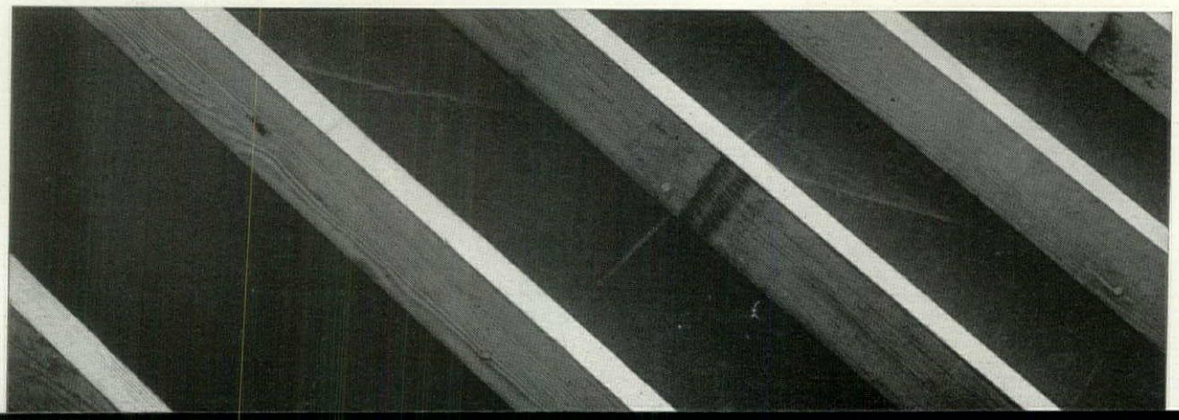
Truscon Intermediate Projected Steel Windows with sill vents add modern distinction to Cleveland Heights Public Library, Cleveland Heights, Ohio. Garfield, Harris, Robinson and Schafer, architects. Alger-Rau Co., general contractors.

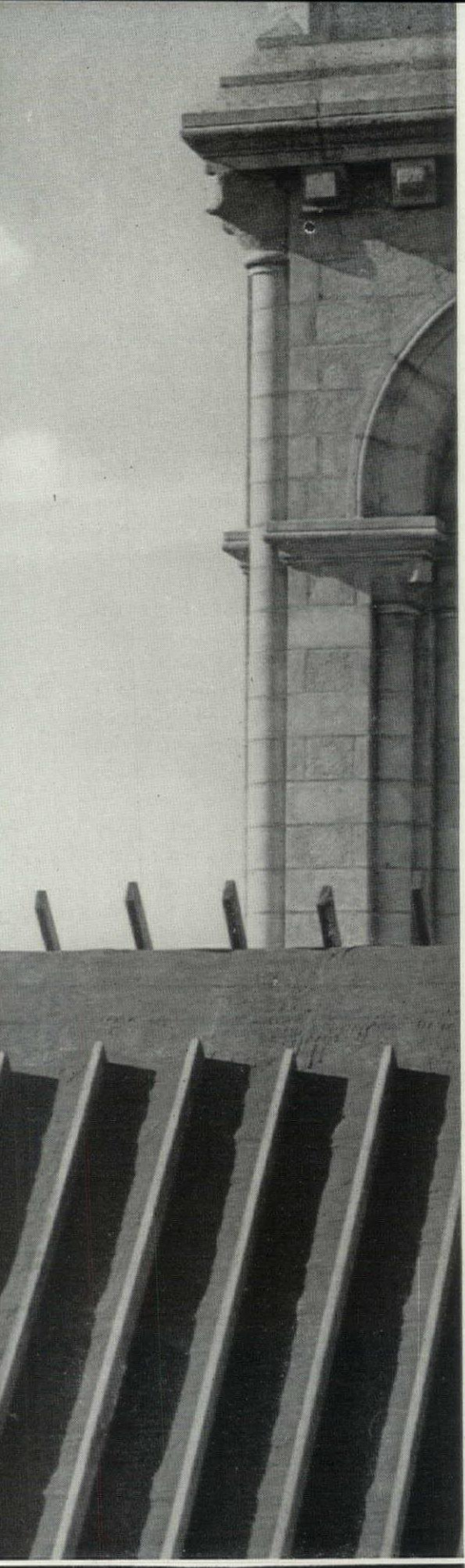
University of New Mexico, Men's Dormitory, Albuquerque, N. M. Meem, Zehner, Holien & Associates, Santa Fe, Architects, O. G. Bradbury, Contractor.
Truscon Maxim-Air® Steel Windows.



MONSANTO PENTA PRESERVATIVE ADDS PERMANENCE TO WOOD

All runners under roof tiles were replaced with 1¼" x 4" penta-treated material, shown here. This wood will resist decay many years beyond the rotting point of untreated wood of the same quality.





In the towers and dome of St. Louis Cathedral — recently renovated — decayed, untreated wood has been replaced with 96,000 lineal feet of long-lasting, penta-treated lumber. Kiln-dried Douglas fir members, now installed under the green tiles of the beautiful structure, will resist rot and insects for *years* beyond the normal life span of the same wood, untreated.

Pressure-treating with penta drives this clean preservative deep into the cells of the wood, making it virtually time-proof. Penta protection is long-lasting: rain or ground water can't wash away the preservative.

When you write Monsanto Penta into your timber specifications, you add permanence to your work and save money for your client.

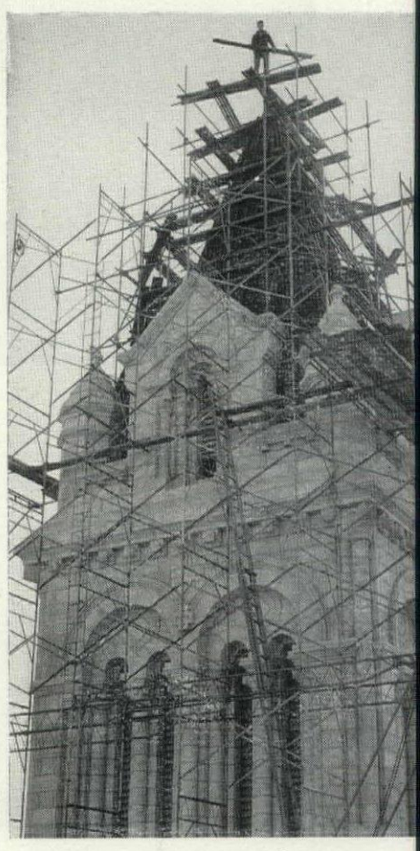
Architects will be interested in a new brochure, titled "Specify Penta," which gives complete instructions for specifying penta treatment. A copy will be mailed to you at no obligation. Ask also for details on Santobrite — a salt of pentachlorophenol — for preserving organic fibrous products such as insulating board. Write: MONSANTO CHEMICAL COMPANY, Organic Chemicals Division, 800 North Twelfth Boulevard, St. Louis 1, Missouri.



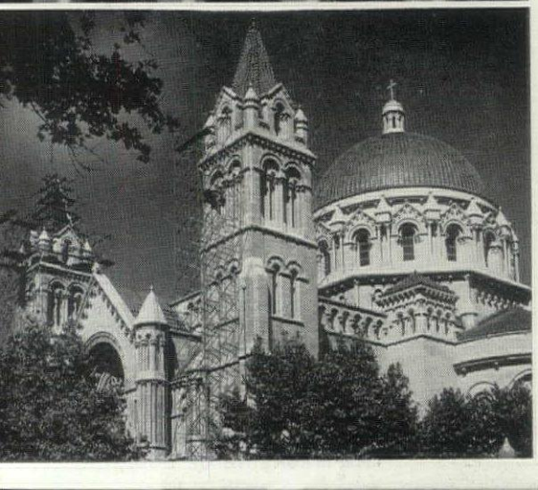
Santobrite: Reg. U. S. Pat. Off.

MONSANTO
CHEMICALS—PLASTICS

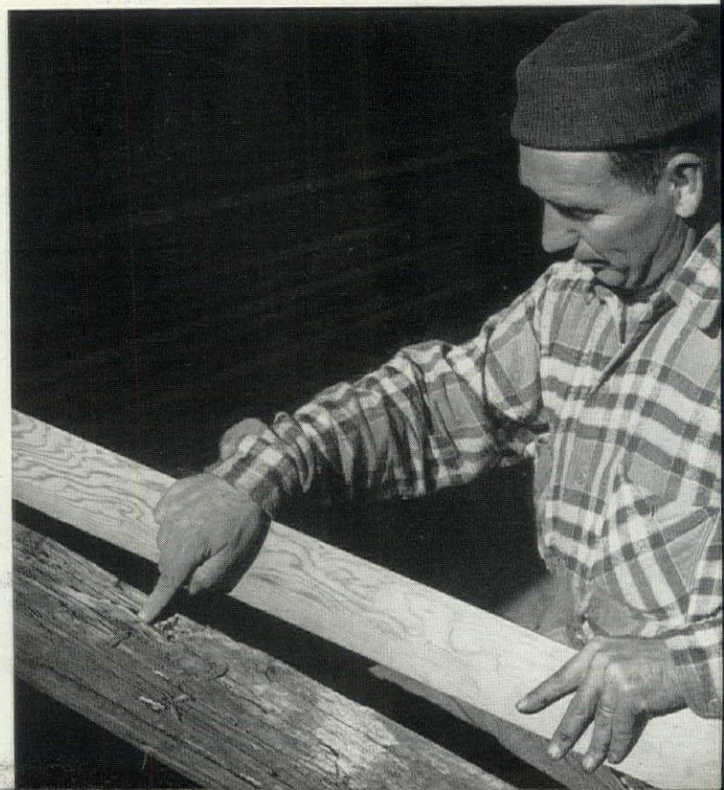
SERVING INDUSTRY . . . WHICH SERVES MANKIND



One of the largest churches west of the Mississippi, St. Louis Cathedral has been undergoing renovation for several months. The twin towers rise 157 feet above Lindell Boulevard. Old wood stripping, which can be seen through the scaffolding, was put on at the turn of the century with handmade nails.



Rotting timbers, 50 years old, crumbled under the pressure of crowbars as towers were refurbished. Old wood was replaced with 1¼" x 4" strips on straightaways, 1¼" x 8" strips on ridges. New wood is close-grained Douglas fir, specially milled and treated with a 6# net retention of 5% penta-in-oil solution.





Hedrich-Blessing

***"All-glass houses** are the physical signs of the Internationalists' race with dogma"—860 Lake Shore Drive apartments in Chicago by architect Ludwig Mies van der Rohe.*

order to be used must be operated on and generally fixed up. This presents a most unpleasant picture. The next logical step is to dislike the whole forest. On the Internationalist side one symptom of this is the prevalent dislike and disregard for history. Another step, typical of Selectivism, is the derogation of the Romantic era; that is, of the very styles with which the architect must deal, because they form so large a part of his environment. The fact that much Romantic work was lively and utterly charming does not sway the over-all dislike.

One result of these attitudes is the current emphasis on stylistic consistency. Having postulated each style as distinct and separate, as essentially disconnected from both environment and all other styles, the Selectivist finds he must demonstrate this with greater and greater insistence. On the Traditionalist side the period piece, the exact reproduction and the archaeologically correct version become the highest goals. On the Internationalist side the greatest fidelity to the rules takes the place of archaeology. The most touted Internationalists do not hesitate to follow them far beyond the limits of good sense, such is their ardor, such is the degree of their dedication. Sagging cantilevers, propped up porches, and all-glass houses are the physical signs of their race with dogma. Livability is similarly affected. The grouping of incompatible functions for the sake of stylish space effects, the cult of the open plan, hit the individual where he really lives.

Adzed antiques vs. bar joists

The reliance on dogma seems, typically, to be accompanied by tendencies toward nostalgia, alternating with strong moods of revolt from discipline. The nostalgic moods are directed toward the past, when things were wonderful and warm and easy, or toward the future when things will be clear cut and neat and simple. The reactive moods are directed against the tyranny of current techniques and socio-economic demands. The Traditionalists scuttle around after old summers, after hand-adzed, genuine antiques, while the Internationalists scuttle through *Sweets Catalogs* for the summer of the future. This is currently believed to be the bar joist.

However, the International Style's preoccupation with technology, pseudo though it sometimes is, has by and large been

continued on p. 198



BARANOF HOTEL
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SCHOOL WINDOWS



Elementary Central School, Chappaqua, N. Y.

Domenico Lo Cascio, Building Contractor — *Moore & Hutchins, Architects*

In this school room, Hope's Steel Windows extend from sill to ceiling, giving an abundance of controlled, natural light. There is little to obstruct the distant view so refreshing and necessary for the health of young eyes.

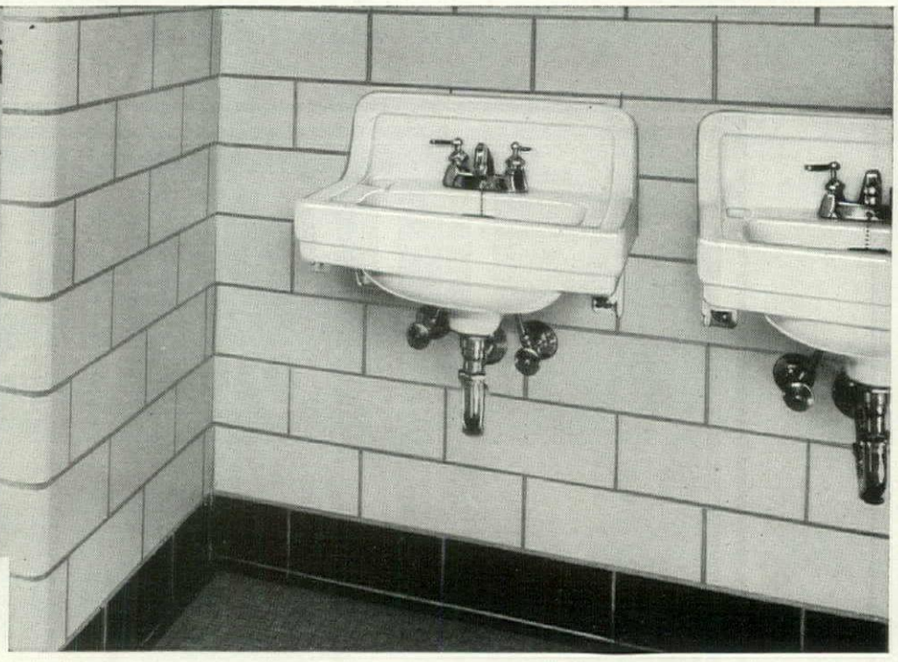
Any pattern of air circulation desired is readily obtainable by adjusting top or bottom ventilators. Hope's ventilators retain their weather-tight bedding contacts permanently without sticking or binding.

In addition, Hope's Steel Windows provide excellent records of economy in upkeep. Write for Hope's Catalog and Publication No. 130A. Hope's Engineering Department is available to you for any service you may require.

HOPE'S WINDOWS, INC., *Jamestown, N. Y.*

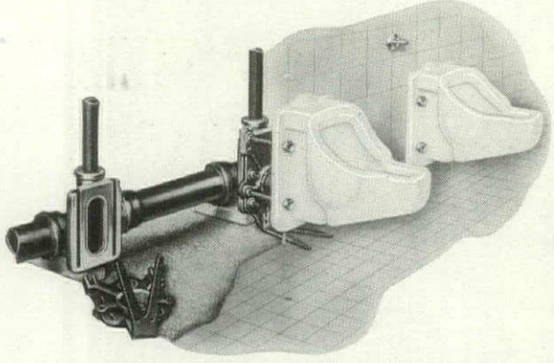
THE FINEST BUILDINGS THROUGHOUT THE WORLD ARE FITTED WITH HOPE'S WINDOWS





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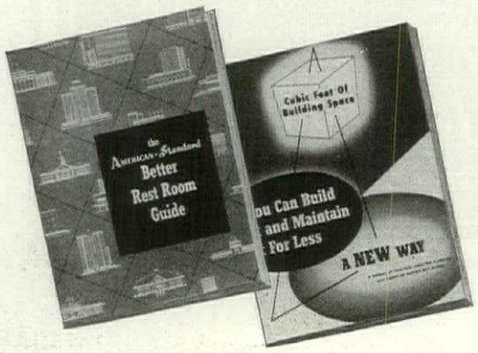
THE architectural and structural advantages of wall type plumbing fixtures for rest rooms are sound . . . and many. Planning such rooms around completely bare floors gives you greater freedom of design. Furthermore, rest room floors that are intact and free of obstructions create a pleasing effect of spaciousness. They look more modern . . . and, because they are easier to keep clean and maintain, they stay modern through the years!

Yes, American-Standard wall-type plumbing fixtures installed with and supported by Zurn engineered carrier systems insure against the untimely obsolescence of the rest rooms you plan. In addition, this time-tested combination permits you to lower ceilings, use less space for walls, and use practically any type of floor construction. Your foresight also saves your client money on construction material, time and labor! For a comprehensive discussion of modern rest room ideas, write for the booklets shown below.

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Please send me the 2 booklets: "BETTER REST ROOM GUIDE" and "YOU CAN BUILD IT FOR LESS A NEW WAY."

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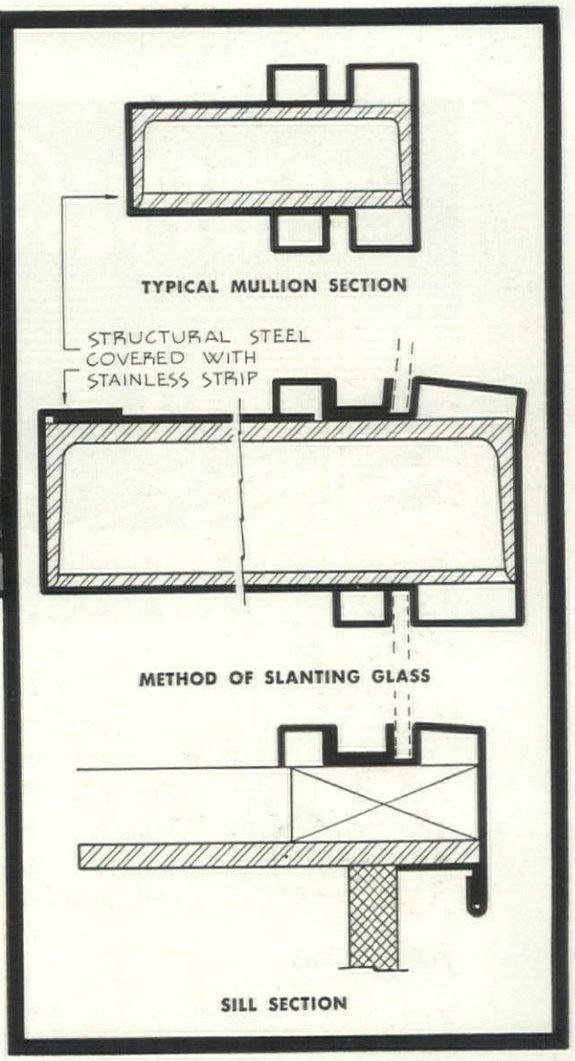
Company .....

Street ..... City ..... State .....



Architect | Ezekiel Levinson
Philadelphia, Pa.

Stainless Steel Sash
IN SUPERMARKET



Two types of stainless steel sash construction were used in this Philadelphia shopping center. On the tall glass front, stainless steel provides an attractive covering for structural steel mullions and muntins. The neat luncheonette window, free of columns, has structural sash of stainless bar stock.

Because of the many forms available in stainless steel, the architect has this choice in sash construction. He can clad standard structurals with stainless strip or use structural members of solid stainless steel.

Types of stainless steels used in architectural work have about the same yield strength and modulus as structural steel. Consequently, sections may have slim proportions, yet possess more than ample strength.

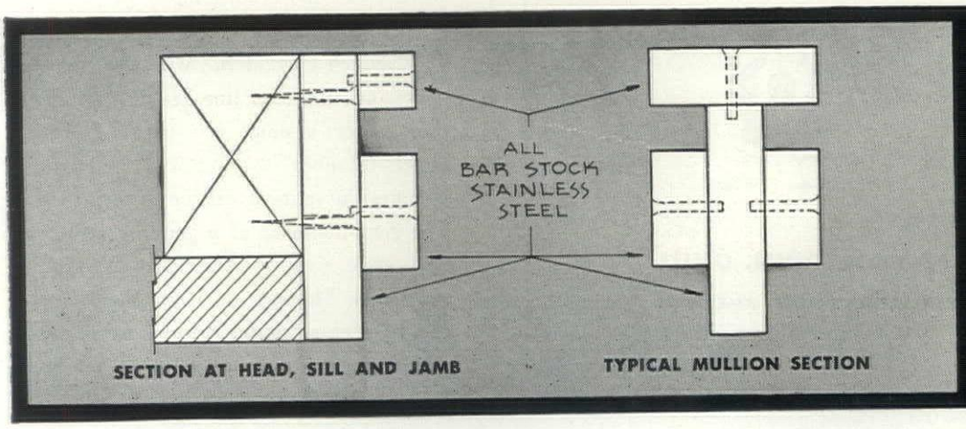
Today Armco 17, Type 430 stainless steel, is readily available in sheets, strip, bars and angles. It is one of the oldest of the stainless steels, widely used in interior architectural applications, rust resistant in exterior applications except in severely corrosive seacoast atmospheres.

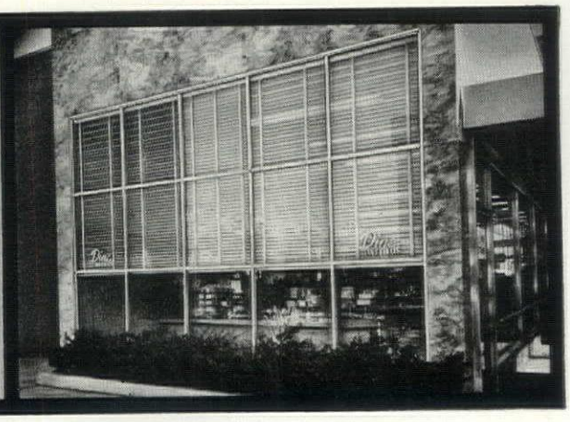
For more information on Armco Stainless Steels, use address at right.

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You've no doubt read or heard from time to time that one or another type of fire protection is the correct answer to your safety problem. One says foam is best. Another says water sprinklers are the answer. Perhaps carbon dioxide, dry chemical, or other media will do the trick.

What is the most effective method?

Without a thorough understanding of all conditions involved, we wouldn't hazard a guess. For fire protection, like any other scientific problem, requires (1) technical know-how, and (2) application of that knowledge. Most methods of fire safety are good . . . but only through "FIRE PROTECTION ENGINEERING"—designing, manufacturing and installing the specific type of system *best by test*—can you be sure of maximum safety.

So, we take all methods of fire alarm and control, combine them with extinguishing mediums—FIRE-FOG, Air Foam, Sprinklers, etc.—and compound the results by adding "Automatic" technical know-how as well as test and field experience. The result . . . the finest "Automatic" FIRE PROTECTION available at any price.

The subject is more vividly covered in our colorfully illustrated literature, "The ABC of Fire Protection." Write for free copy today.



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KENNEDY ON ARCHITECTURE *cont'd.*

beneficial. It has recreated a desire for sensible thinking both on planning for function and on siting. These reforms were so vitally necessary and are so close to the heart of architecture that Internationalism, in spite of its unpopularity, has achieved some startling successes.

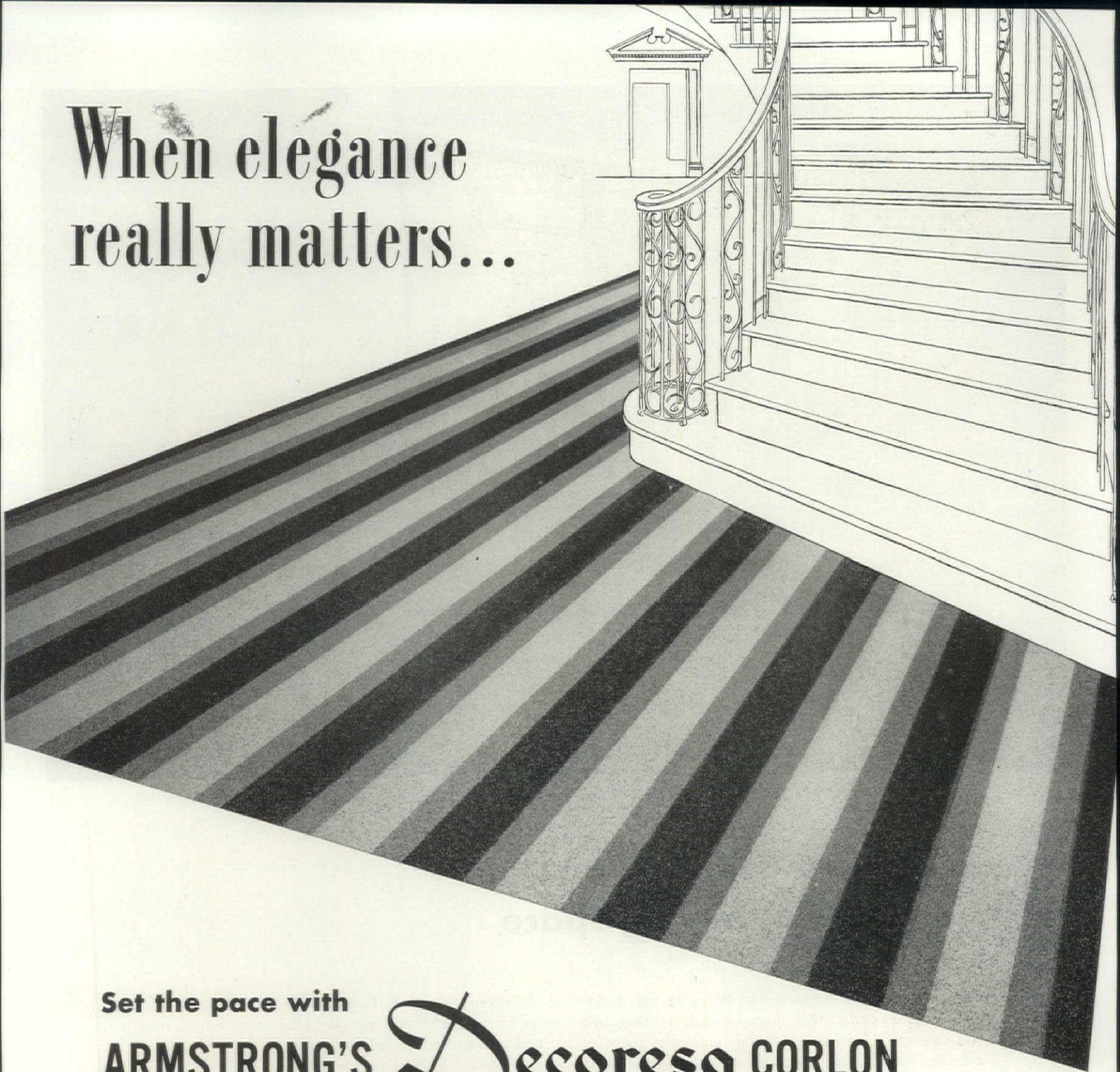
This must be explained by the history of our architectural times. The architectural schools were largely created after the death of tradition, in the Eclectic and Revivalist heydays. And, even though the universities themselves continued to build in the Eclectic manner, those in charge of the schools plus a few critics fully realized its untenable nature.

Tomorrow's fine architecture

The first movement to offer reform and progress was Internationalism. As a result it was adapted precipitously, and unquestionably wisely, even though the powerful minority within the profession were, and in fact still are, in the Eclectic phase, and even though they were, and still are, doing most of the work. The Internationalists at the time they achieved their initial success were very few in number, usually in more or less financially difficult positions, generally disliked by the public, and starving for work. At about the same time the architectural press reached the same conclusions the universities had come to and changed over to an almost exclusive fare of modern work. During World War II the dream magazines also "switched to modern," following their own peculiar rules, and the curious phenomenon of schools and mass media on the International Style side has resulted. It is for this reason that Modern is so often thought of as sure to sweep the country—later if not sooner.

However, because Selectivism is to all intents and purposes a single phenomenon, whether in its Traditionalist or in its International manifestation, such a superficial "switch to modern" will have no basic effect on American fine architecture. Like the earlier attempt to switch from the Greek Manner to Gothic, the more it changes the more it will be the same thing. The establishment of a genuine contemporary style rivaling American Colonial, or the Greek Manner, or High Victorianism, can only come about through a resolution of some of the social pressures on architecture and architects.

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the first patterned inlaid plastic flooring

When a discriminating client asks for distinctive floor styling—seize the opportunity to specify the most distinguished of all floors, Armstrong's new Decoresq* Corlon®.

You will benefit from the prestige that this outstanding floor will build for you. Your client will appreciate its unusual beauty which forms a distinctive background for a gracious interior scheme.

This entirely new vinyl plastic flooring is an Armstrong exclusive. It presents an unusual opportunity for your select interiors. Specify it for luxury homes, fine shops, modern offices, and monumental buildings . . . the prestige installations that may be few and far between, but which do more for your own reputation than many run-of-the-mill jobs.

Even under severe traffic conditions, Decoresq Corlon will retain its rich beauty for many years. The smooth, easy-to-clean surface is exceptionally resistant to the harmful effects of spilled liquids, alkaline cleansers, and normal household reagents. The distinctive bright colors of Armstrong's Decoresq Corlon are due to the permanent pigments and the clear vinyl plastic binders used in its manufacture.

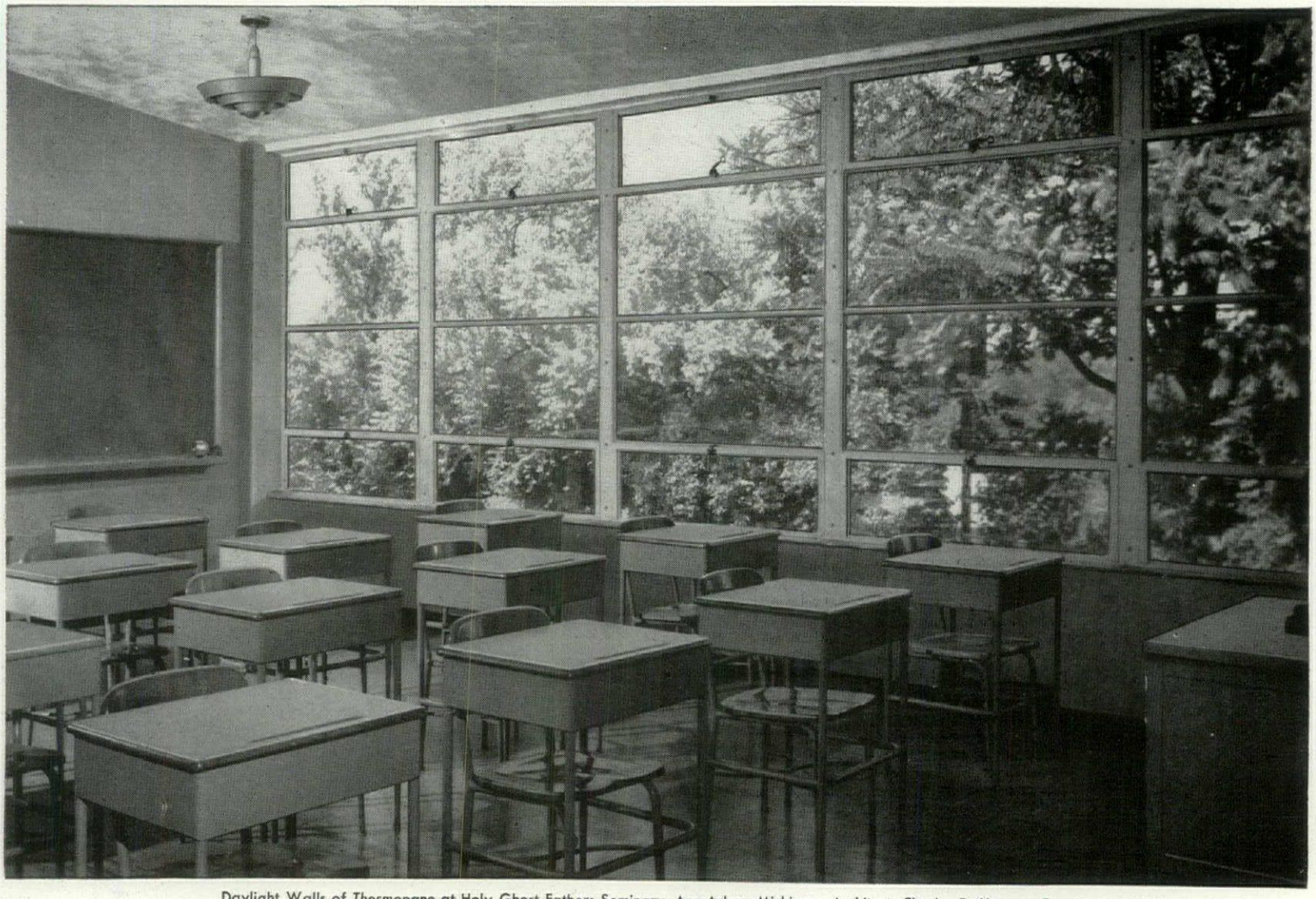
Completely stable, Decoresq Corlon will not shrink or stretch on the floor.

The vinyl plastic wearing surface is .050″ thick. This is keyed to Armofelt—Armstrong's exclusive extra-tough fresh-fiber backing—giving an over-all thickness of .090″. The granite-textured design is striped in harmonizing tones. Decoresq Corlon is made in rolls 6′ wide and available in three patterns: No. 6150—Black, gray, and white; No. 6151—Three-tone green; and No. 6152—Three-tone tan.

Ask your Armstrong flooring contractor for color samples, specifications, and prices on Armstrong's Decoresq Corlon or write direct to Armstrong Cork Company, Floor Division, 309 Rooney Street, Lancaster, Pennsylvania.

*T. M. Reg. applied for.

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Daylight Walls of *Thermopane* at Holy Ghost Fathers Seminary, Ann Arbor, Michigan. Architect, Charles D. Hannan, Farmington, Michigan.

How to get spaciousness without buying space

The space in a schoolroom can be measured in feet and its cost in dollars. But spaciousness is a feeling, and you can get it without enclosing unneeded space or spending extra dollars. See how this has been done in the room above. The clear glass Daylight Wall stretching from sill to ceiling opens the room into the world beyond.

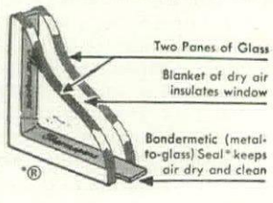
Notice how the room is flooded with natural daylight. This cuts down on glare and contrast which cause eye discomfort. And it saves on illuminating costs. Daylight Walls are economical to build (no masonry, lath, plaster or paint), economical to maintain (glass is easy to clean and doesn't wear out). In the box below, you'll find facts on *Thermopane** insulating glass which cuts heating costs and adds to indoor comfort in winter.

But most important, a Daylight Wall helps children to be happy; to see and enjoy the trees, the sky, the seasons. It banishes the cooped-up feeling that comes with walls that you can't see through.

If you'd like to read more authoritative facts on school lighting and construction, write for a copy of the booklet, *How to Get Nature-Quality Light for School Children.* Libbey·Owens·Ford Glass Co., 4293 Nicholas Bldg., Toledo 3, O.

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Thermopane insulating glass is widely and successfully used. *Thermopane* with ½" of dry air hermetically sealed between two panes has twice the insulating value of single glass. This minimizes chilliness, drafts and heat loss at windows in winter. *Thermopane* cuts air-conditioning costs by reducing the amount of heat entering during summer. It cuts out 44% more noise than single glass. Write for *Thermopane* literature. Libbey·Owens·Ford Glass Company, 4293 Nicholas Building, Toledo 3, Ohio.

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with installation of modern Frigidaire refrigeration equipment

Hospital modernization programs, designed to provide better facilities and improved medical services, can also serve to lighten the burden of operating and maintenance costs. This has been demonstrated by the St. Joseph Hospital in St. Cloud, Minnesota, where modern Frigidaire units were recently installed to replace a central steam-powered refrigeration plant and circulating brine system. Decentralized units totaling only 12 horsepower now serve the hospital's needs fully—where a 90 horsepower system was formerly required.

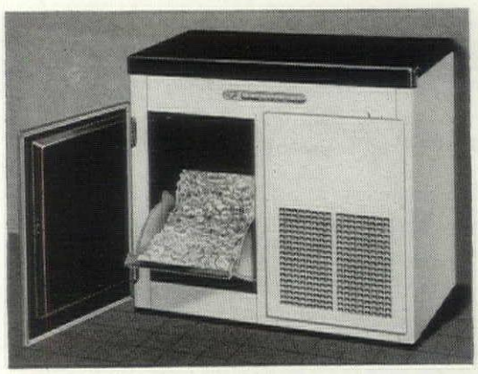
The new equipment consists of 18 Frigidaire Reach-In Refrigerators, 7 Frigidaire Ice Cube Makers and 4 XD Meter-Miser Compressors. The hospital engineer reports, "Our Frigidaire compressors are now saving us the equivalent of half a ton of coal every day. And these savings are even greater during the summer because then the steam boiler which furnished power for refrigeration can be shut down entirely."

Administrator Sister Francis Xavier says the new Reach-Ins give more efficient refrigeration of foods and medical supplies, and the new automatic Ice Cube Makers show a remarkable saving over the old ice plant formerly located in the basement.

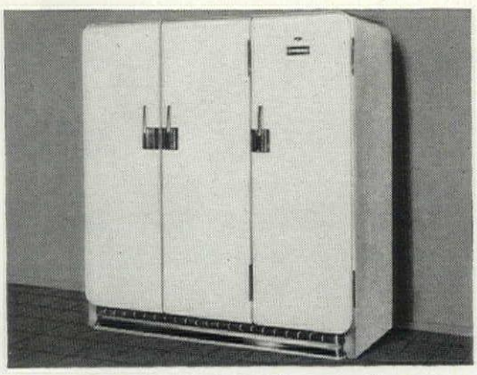
A phone call will bring you detailed information on any Frigidaire product or service. Call the Frigidaire Distributor or Factory Branch that serves your area. Look for the name in the Yellow Pages of your phone book, or write Frigidaire, Dayton 1, Ohio. In Canada, Toronto 13, Ontario.

LOCATION: St. Cloud, Minnesota
MANAGEMENT: Sisters of St. Benedict

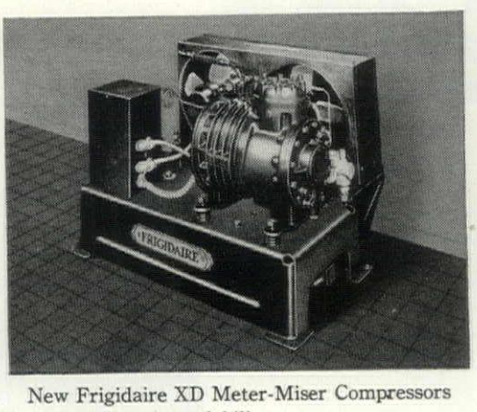




Frigidaire Ice Cube Maker makes as much as 200 lbs. a day for as little as 26¢—automatically!



Frigidaire Reach-In Refrigerators feature Frigidaire "Flowing Cold" cooling principle.

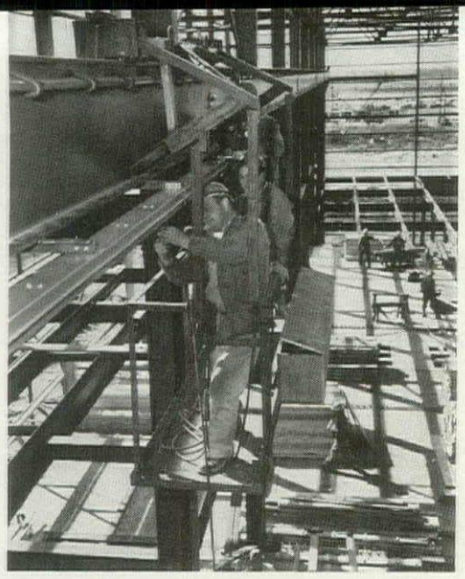


New Frigidaire XD Meter-Miser Compressors for extra dependability, extra economy.

FRIGIDAIRE Dependable Air Conditioning and Refrigeration Products

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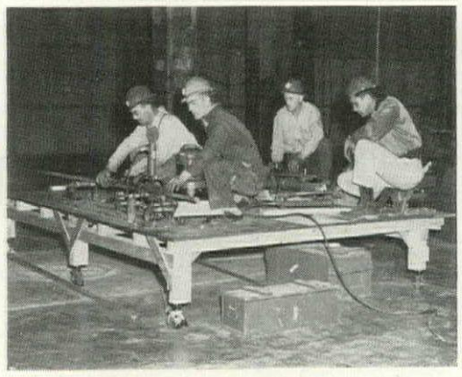
Complete line of Air Conditioners • Reach-In Refrigerators
Water Coolers • Ice Cube Makers • Ice Cream Cabinets • Display Cases
Compressors • Beverage Coolers • Home Appliances



BUILDING ENGINEERING

continued from p. 168

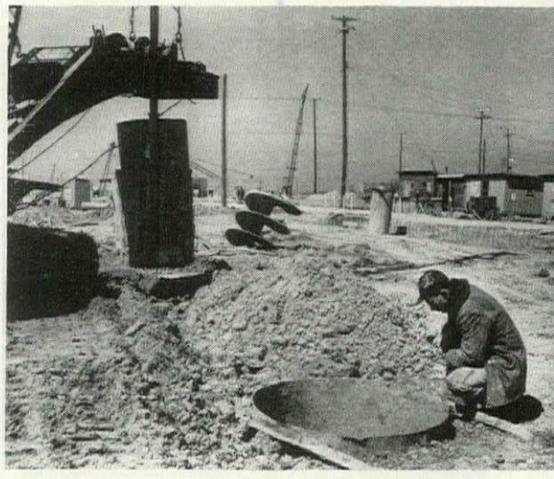
around which a great deal of electrical and mechanical equipment has to be attached and painted, a mobile three-man welded scaffold was designed. It consists of a platform, with toolboxes attached under the inside of the crane bay area, supported by an A-frame on four small wheels, two on each side of the web of the supporting beam. Thus the scaffold can be towed by hand along the crane beam as required.



3. Rolling workshops

Throughout the plant a number of electrical and mechanical workshops have been mounted on casters so they can be rolled wherever required. Usually a mere platform, each workshop is equipped with one or more workbenches, light machinery, power cables, compressed air, toolboxes, pipe bending machines and any special equipment.

Some of these workshops are electrical testing cubicles complete with three walls and a roof. The open side can be placed against a control panel and sealed off during testing operations. This permits important electrical work to be carried on in dustproof and noiseproof seclusion.



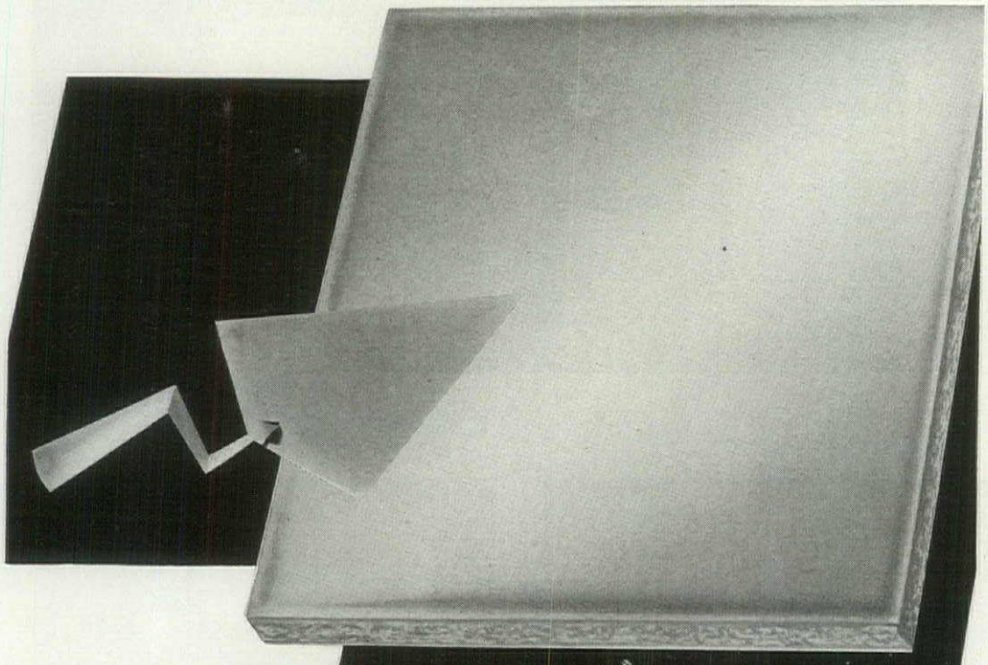
4. Drilled foundation forms

The Paducah plant is built on a sandy clay subsoil in which spread footings proved expensive. Tests showed that the soil was suitable for drilling and that the loads could be carried by cylindrical footings having enlarged bell sections at the bottom. These footings are from 2′-4″ to 5′-6″ in diameter, from 13′ to 20′ deep with a bell diameter at the bottom of the hole of from 6′ to 12′ wide. Procedure: 1) The shaft is bored with an auger drill. 2) A special flaring tool cuts the bell section at the bottom of the hole. This tool is a bucket with four folding blade cutters that open outward when the bucket is turned in a clockwise direction. 3) A temporary metal liner protects the bored hole until concrete is poured into it.

continued on p. 206

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State Training School
Clinton, South Carolina
Good Samaritan Hospital
Dayton, Ohio
St. Francis Hospital Addition
Burlington, Iowa
Easley Hospital
Easley, South Carolina
St. Joseph's Hospital
Eureka, California
Community Memorial Hospital
South Hill, Virginia
Health Center
Monroe, Georgia
Morris County Welfare Home
Morris County, New Jersey
Southwestern Samaritan Hospital
Kalamazoo, Michigan
Valdosta Hospital
Valdosta, Georgia
Wyoming County Community Hospital
Warsaw, New York
Washington County Hospital
Chatham, Alabama
State TB Hospital
Salem, Oregon
Hancock Memorial Hospital
Britt, Iowa
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LUDMAN Auto-lok AUTOMATIC LOCKING PATENTED SPECIAL HOSPITAL WINDOWS

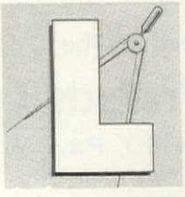
Burlington Protestant Hospital, Burlington, Iowa
Morgan-Gelatt & Associates, Architects



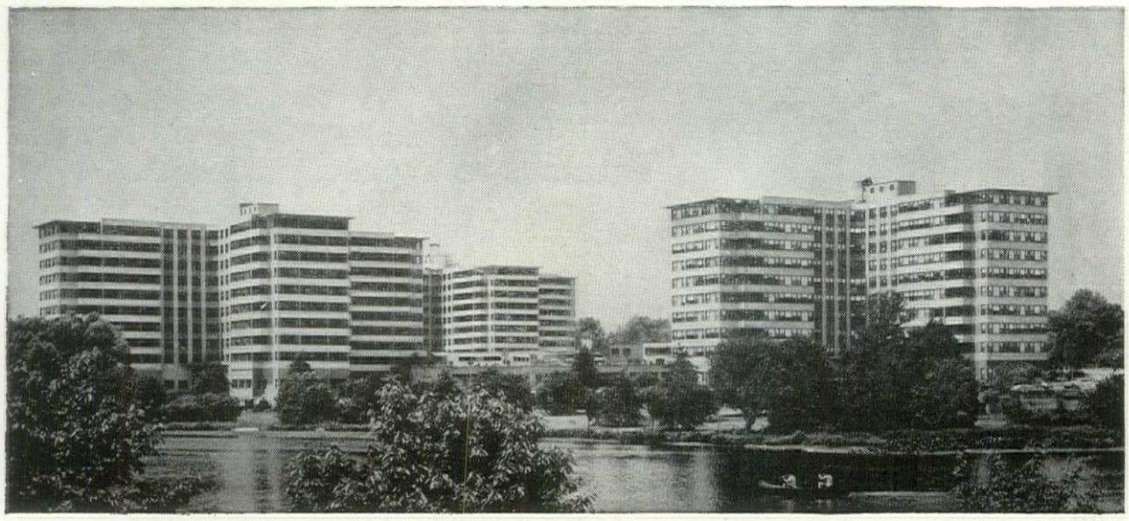
Busy nurses appreciate Ludman Special Hospital Windows because they operate so easily, so smoothly—with only a finger-touch!

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LUDMAN LEADS THE WORLD IN WINDOW ENGINEERING



◀ **Steeltex was used** to reinforce the concrete floors in the $10-million Park View Apartments at Collingwood, N.J. Knopf and Oshiver, Architects. Built by Sylvester J. Lowery and E. J. Frankel.

How STEELTEX* helped save up to 10% of floor costs on multi-million dollar apartments in Philadelphia and suburbs

The residential trend toward the suburbs in Philadelphia during the last three years has been highlighted by construction of some of the country's outstanding private apartment plans.

Commercial building of this type must incorporate economy in design, speed in construction and low maintenance cost in the finished building to get a maximum return on the investment. It is not surprising, therefore, that these projects, totalling some $29 million, have some interesting features in common.

"Substantial savings have been reported by owners in this area through the use of Steel Bar Joists and STEELTEX in comparison with reinforced concrete construction," reports the head of a large contracting firm that has participated in many of these projects. Here's why:

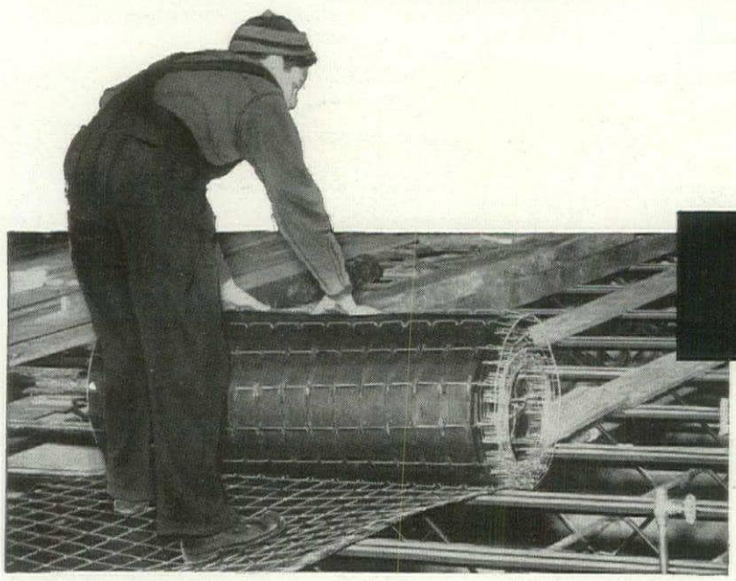
1. In design of the floors, *no additional reinforcing was necessary* with STEELTEX. The crimped stitch wires permit the backing of STEELTEX to fall away from the reinforcing mesh under the weight of the concrete. Thus, the wire mesh is imbedded in the concrete.

2. Installation costs on these projects have shown that STEELTEX has been installed *at a saving of approximately 10%* over the installation of centering material requiring additional reinforcing in the form of mesh.

3. Savings in concrete have been reported *as high as 10%* through the use of STEELTEX. In pouring a 2½" slab, for example, sag loss for STEELTEX was reported approximately ¼" compared to ½" or ¾" for other types of centering material. Finally, waterproof backing on STEELTEX virtually eliminated drippings on the floor below and prevented the loss of cement and fines, resulting in a better quality concrete floor. Clean-up time was reduced to a minimum.

These savings carried through into every phase of these apartment projects in Philadelphia. A skillful coupling of contemporary design and economy in construction, without sacrificing value in construction, has made this vanguard of new projects commercially successful. Proof lies in the dozens of new projects now in planning stages throughout the area, most of them incorporating the advantages worked out on these initial buildings.

Whether your projects involve apartments, schools, banks, hospitals, or warehouses; you, too, can achieve the same results. See the STEELTEX catalog in Sweet's or write for catalog.



▲ **One man** can roll out a 125′ roll of Steeltex in a few minutes. Steeltex provides both waterproof form and steel reinforcement for concrete floors.

STEELTEX*

manufactured by the

Pittsburgh Steel Products Company

Pittsburgh 30, Pa.

**Steeltex is a registered trade-mark of the Pittsburgh Steel Products Company.*



▲ **The massive Parkway House** overlooking Philadelphia's famed Parkway contains Steeltex and concrete floors. The $3.7-million apartment house was designed by Roth and Fleisher. Stanwell Construction Co. was general contractor.

Listed below are other important apartment houses in the Philadelphia area in which Steeltex was used.

- **Duval Manor Apartments**
  Philadelphia, Pennsylvania
- **Latches Lane Apartments**
  Merion, Pennsylvania
- **Pelham Park Apartments**
  Philadelphia, Pennsylvania
- **Wynnewood Apartments**
  Wynnewood, Pennsylvania

Note: In the cross section and closeup the weight of the wet concrete forces the backing away, which permits the galvanized welded wire mesh to assume its proper position in the slab. Steeltex Floor Lath also performs two other functions. It permits work on the floor below while pouring is in progress and retains moisture to assist proper curing.





▲ **The $7.5-million Presidential Apartments** at City Line Ave. and Presidential Blvd. in West Philadelphia contain Steeltex and concrete floors in all buildings. Mayer I. Blum & Sons, Architects; Turner Construction Co., Contractor.

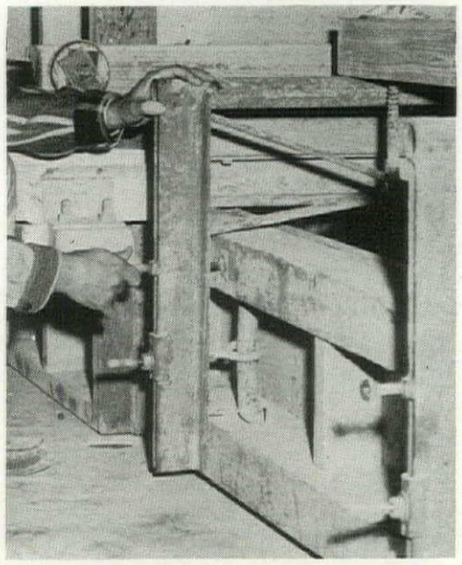
The attractive School Lane House Apartments in Philadelphia's historic Germantown section cost $2.5 million. All floors are concrete, reinforced with Steeltex. Arthur F. Deam, Architects; Turner Construction Co., Contractors. ▼



This technique saved 50% of construction time through the elimination of foundation formwork, reinforcing steel, back filling, hand excavation work and the need to haul grading materials.

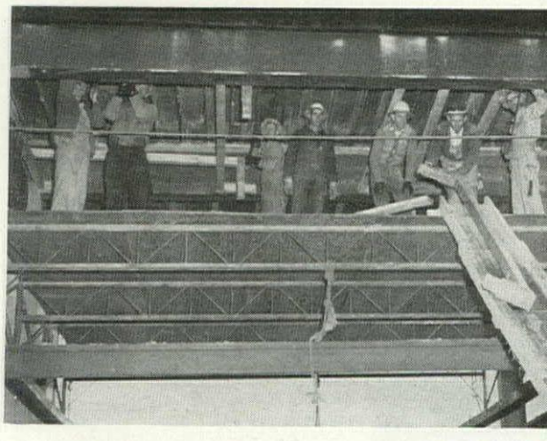
5. Road equipment for floor slabs

Heavy road building equipment was used to help build ground-level floors in large process buildings. The sequence: 1) rough grading is done by small-sized bulldozers; 2) smoother grading is finished by a road scraper; 3) gravel is spread over the smooth surface; 4) the bed is compacted with mechanical rollers; 5) steel side forms are positioned and the slabs poured and vibrated; 6) the concrete slabs are finished with power floats and finishers in the usual manner.



6. Aligning clamps reinforce foundation forms

To reinforce foundation formwork and at the same time to speed up erection and stripping of ¾" plywood forms these are braced with unique side clamps. Each clamp has two ½" diameter bolts designed so that the top bolt can apply tension and the bottom bolt compression to the form by simply tightening one bolt or the other with a hand wrench. With these clamps it is possible to realign a form that has been distorted during a pour before the concrete is actually set. In conventional form construction, bulging forms are pushed into place with wedges but there is no way to pull into place a form that has bulged inward.

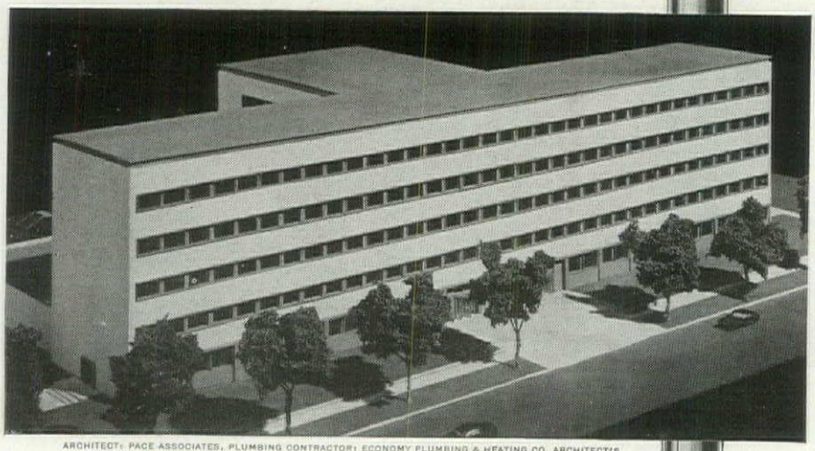


7. Rolling scaffolds

Throughout this AEC project there are large concrete floor slabs high off the ground. To speed stripping of the metal forms used to build these slabs rolling scaffold platforms are used. They are mounted on wheels that roll along the webs of I-beams attached to struts of the building structure. The tracks are about 60′ long and are moved and clamped into a new position as necessary. The platform is hung a few feet beneath the floor slab and the metal forms slide to the ground via chutes.

continued on p. 210

Modern Buildings Deserve Permanence . . . in piping, too!



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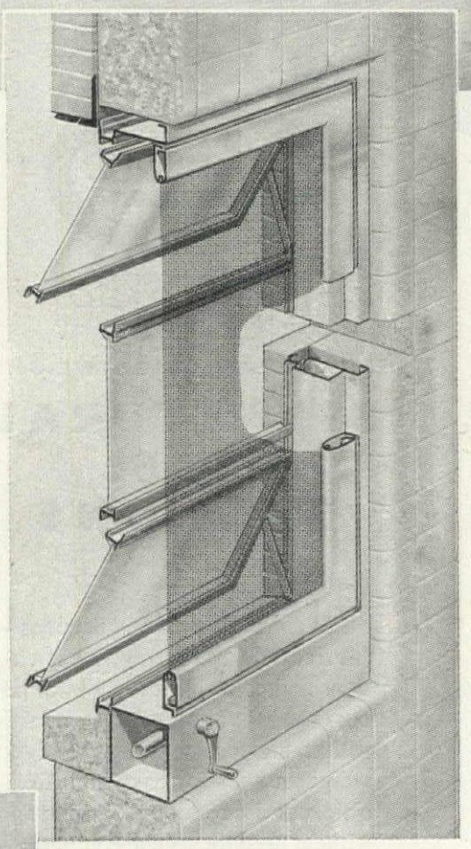
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Robert Frost Daggett & Associates, Archt., Indianapolis, Indiana
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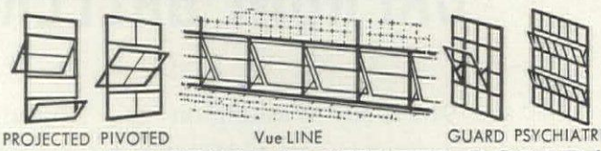
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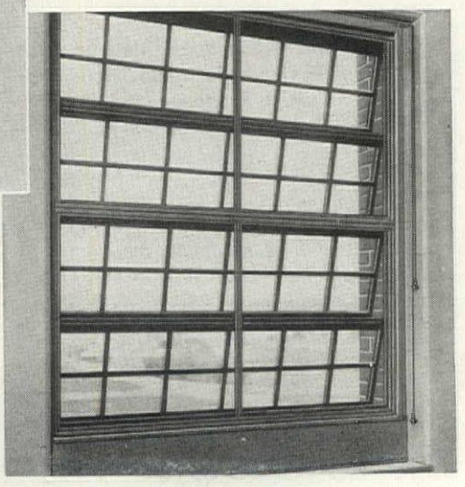


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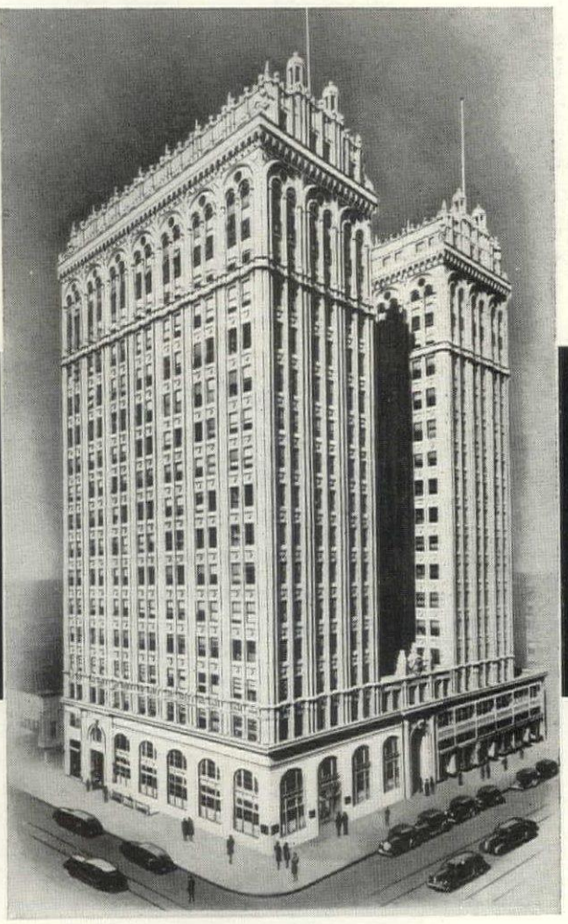
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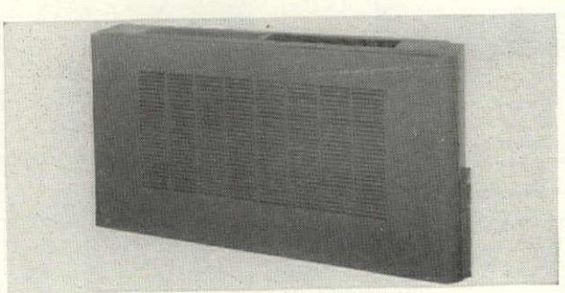
The Jefferson Standard Life Insurance Building would not compromise in its air conditioning!

Consulting Engineers: Watson & Hart
Mechanical Contractors: N. C. & W. H. Sullivan Co., Inc.

The particular system supplied by York for the Jefferson Standard Life Insurance Building in Greensboro, North Carolina, may not be the answer to your project . . . but chances are that York *has* the answer, and here's why:

York *has taken the compromise out* of air conditioning. Your York Engineer is not compelled to suggest that you change a project to fit a system, or force a system to fit the building you are air conditioning. With so wide a range of equipment, York can help you specify the precise installation that will deliver perfect performance at lower initial and operating costs.

There is a York Engineering office in every trading area with experts equipped to work with you from start to finish. A consultation incurs no obligation, of course . . . and can lead to appreciable savings in money, time and worry. Call your York office or write to York Corporation, York, Pennsylvania.



The York Induction Unit System in the Jefferson Standard Life Insurance Building in Greensboro, North Carolina, provides individually controlled climate for office occupants with these trim, modern units. Either heating or cooling supplied from the space saving central station situated in basement of building.

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HEADQUARTERS FOR MECHANICAL COOLING SINCE 1885

York refrigeration air-conditioning

8. Heating during construction

Throughout the project it is necessary to maintain a temperature of around 70° F. to reduce undue expansion or contraction of pipes. The conventional practice (a complete steam-heating system with unit heaters) is expensive. The designers found that the overhead ducts of the permanent ventilation system could well be used to carry warm air. Therefore, these overhead ducts were put in first with temporary heating coils in the filter rooms. Thus the regular ventilation system provided temporary warm-air heating in each building. This saved 60% in initial costs and eliminated a great deal of expensive labor, steam pipes and fittings.

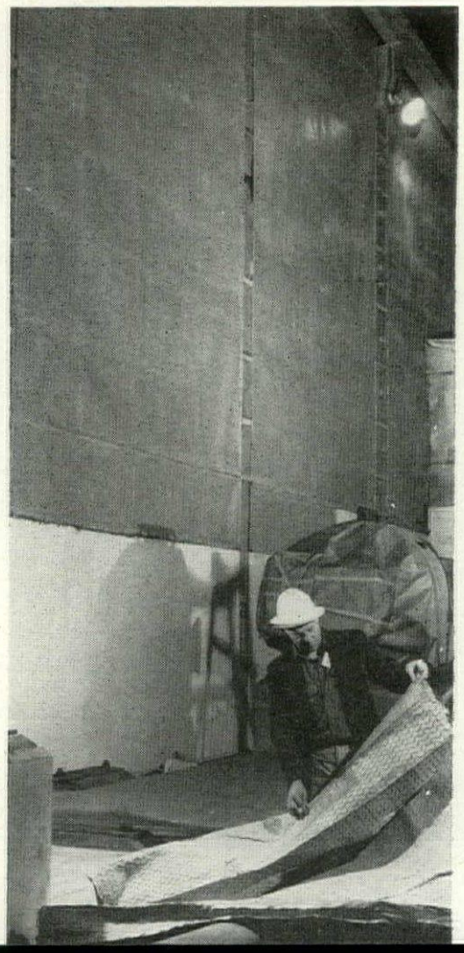


9. Straddle trucks carry steel

Originally designed for handling lumber, these straddle trucks were found to be most effective in handling large volumes of structural steel over a large construction area. They release valuable trailer trucks for the more important work of bringing in new supplies.

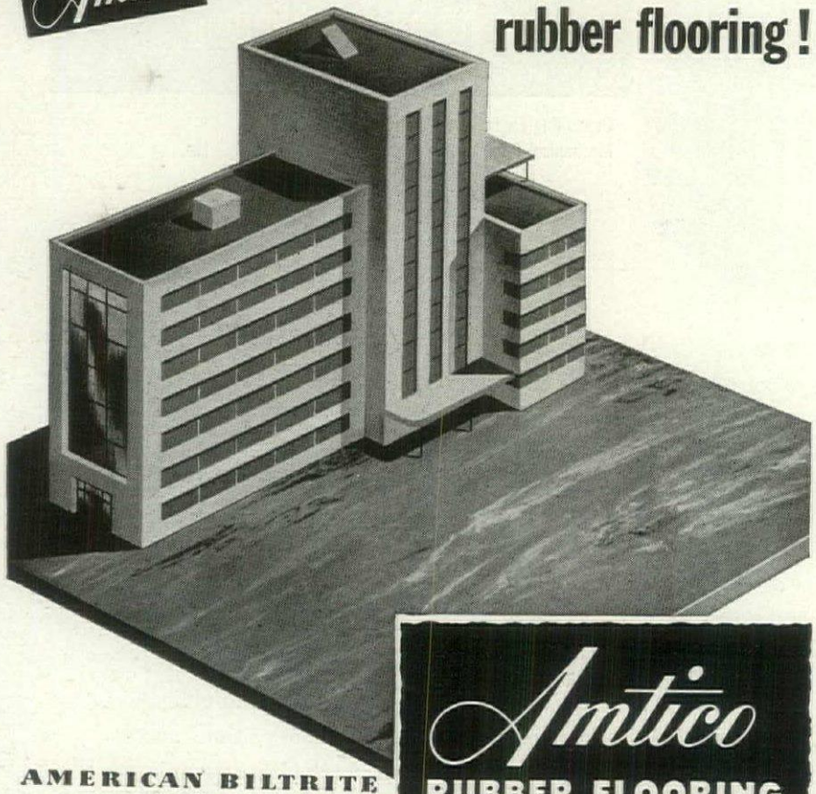
10. Sprayed plastic barriers

Temporary airtight barriers to isolate process areas are quickly and economically constructed by spraying a liquid vinyl plastic onto 1½" chicken wire mesh. These gave a 1/16" thick flame-resistant and airproof coating that proved remarkably free from leakage and ordinary tearing. In all, 250,000 sq. ft. of this material was used throughout the project. Average cost: 50¢ psf. Sheets of this material proved serviceable as tarpaulins once the barriers had served their purpose.



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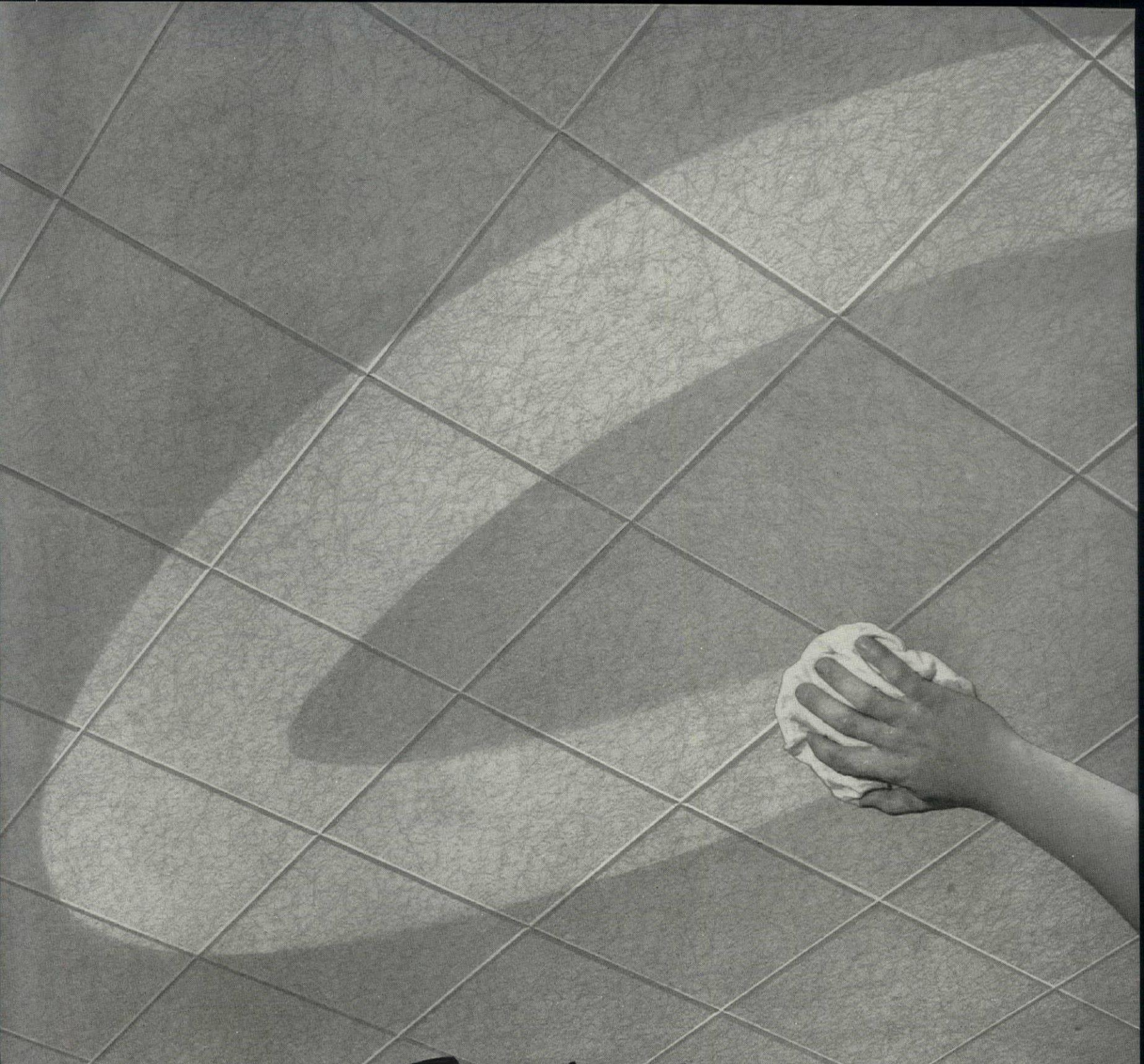
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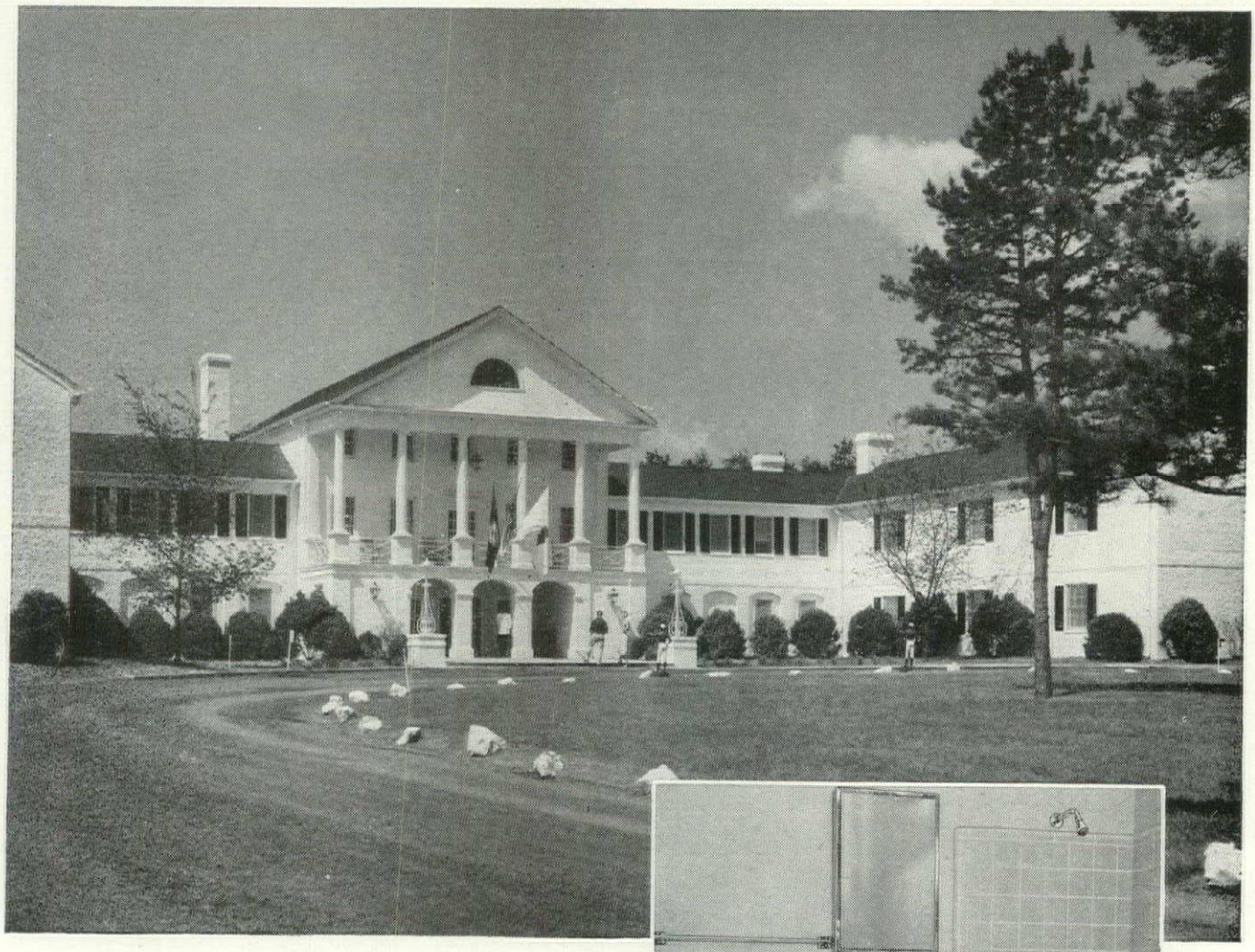
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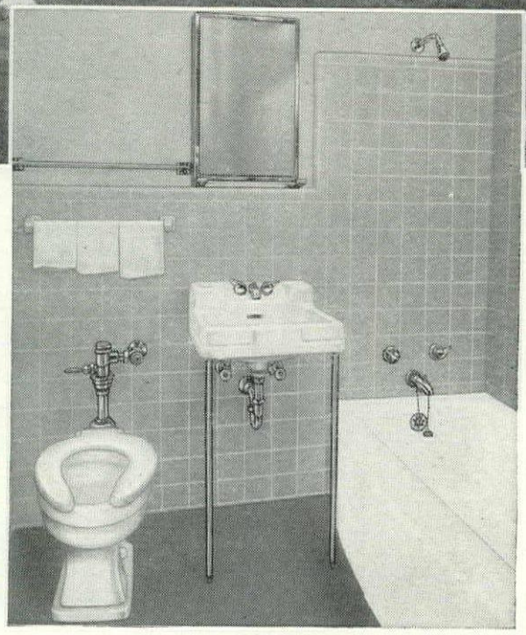


Thos. Jefferson Inn, Charlottesville, Virginia

The new Thos. Jefferson Inn has attracted wide attention for its combination of traditional Southern charm and modern motor-age practicality.

The colonial-like structure has 50 rooms, provides complete hotel facilities as well as desirable features of the modern motor court. Crane plumbing serves the building throughout, its modern styling and high quality typifying the distinctive atmosphere of this unique structure.

Architect, Milton B. Grigg. *General Contractor,* Ivy Construction Co. *Plumbing Contractor,* W. L. Lacy—all of Charlottesville.

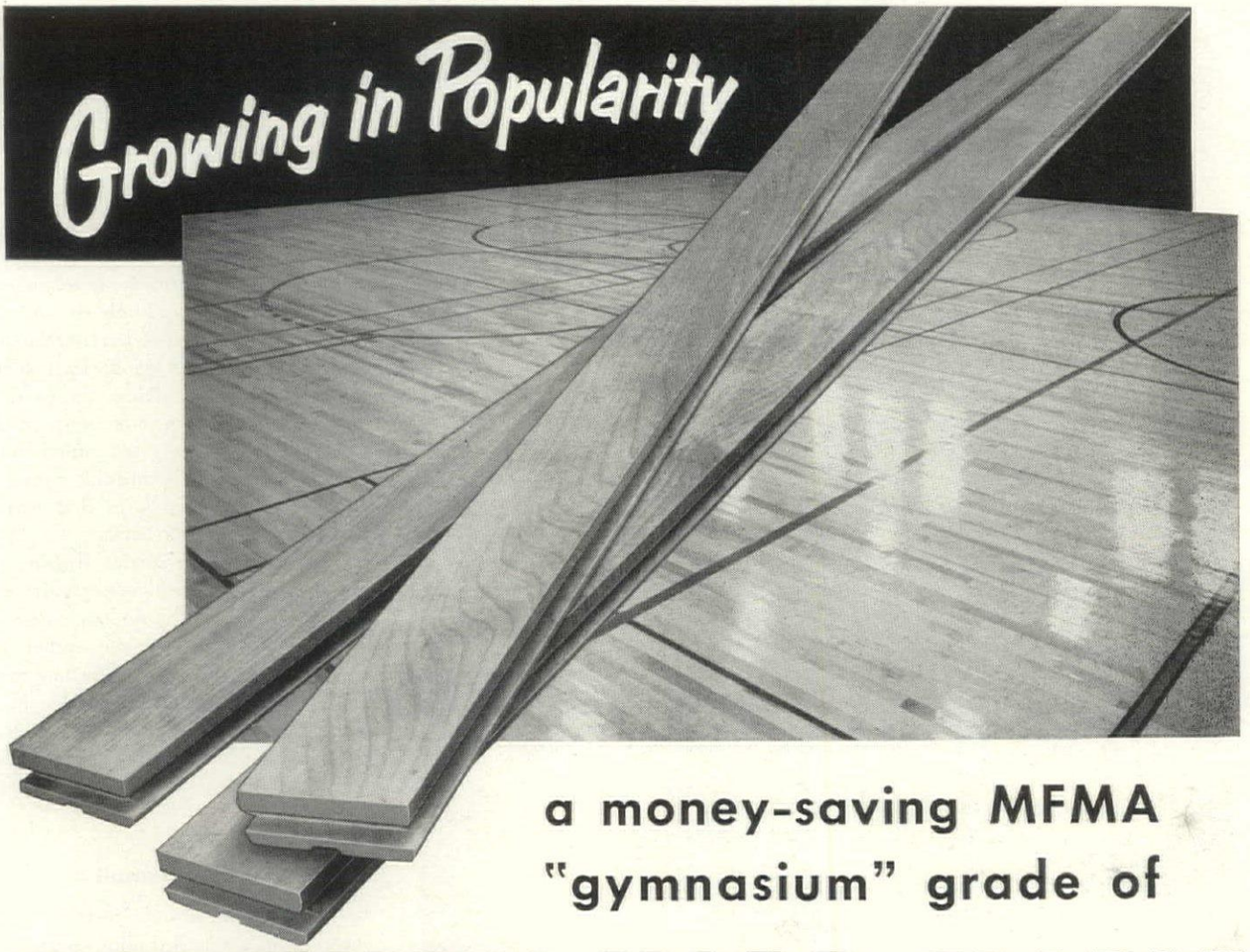


Typical Crane-equipped bathroom in Thos. Jefferson Inn. Tub is Crane Criterion model, closet is Crane Santon, lavatory is Crane Neuday with Whitney Dial-ese fittings.

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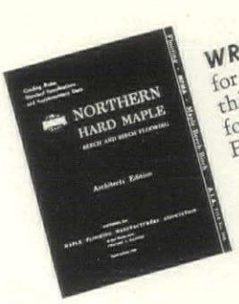
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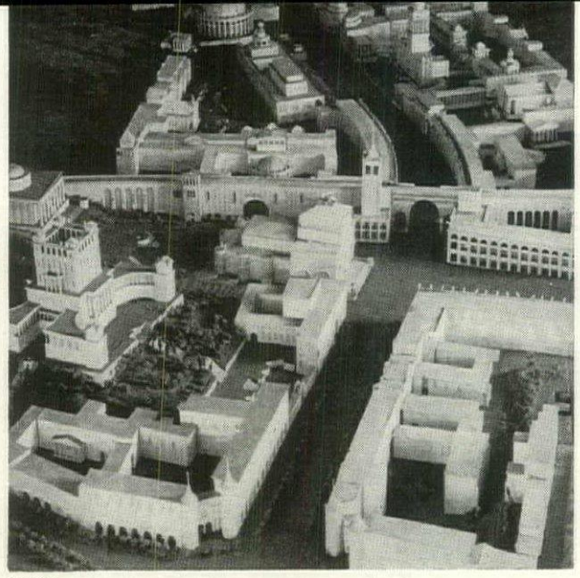


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BOOK REVIEWS

CITY PLANNING IN SOVIET RUSSIA. By Maurice F. Parkins. The University of Chicago Press, 5750 Ellis Ave., Chicago 37, Ill. 120 pp. plus diagrams and 137 pp. bibliography. 7" x 9½". $6

Soviet architects condemn US cities as being a chaos of individual buildings with no coherent city picture. They seem not to notice such integrated developments as Rockefeller Center, Radburn or Baldwin Village and forget that our unrelated building forms elsewhere do at least reflect the dynamics of urban living. In contrast, the Soviet city planning now shaping Moscow and Warsaw has only the superficial coherence of the "city beautiful," a mechanistic two-dimensional city form that was buried in Chicago 50 years back.

City Planning in Soviet Russia starts to evaluate Russian achievements in planning the new cities of a modern, industrialized society. Unfortunately, the author (who is Russian born and speaks the language) has had to rely on material available in the US without seeing the new and redeveloped cities on the ground and his book does not include details or pictures of postwar developments.

Foreign influence small

Early Russian towns, just like Western ones, grew around trading posts and fortresses. Construction was mainly of wood, with stone enclosing walls built to repel attackers. Except for a narrow region fringing on Europe, the country was very backward. Western ideas and culture did not begin to penetrate until the 19th Century, and serfdom was not abolished until 1861. At the start of World War I, Russia's urban population was only 3½ million. Accommodation was poor, people shared highly congested, unsanitary tenements having only 20 sq. ft. per person. By 1951 the urban population had risen to over 27 million, but the average dwelling space had increased to only 44 sq. ft. per person (compared with 200 to 500 sq. ft. in Europe and the US).

Following the Soviet Municipalizing Law of 1918 when all land and building was brought under public ownership, the writings of Marx and Lenin were carefully combed for pronouncements on city planning. According to Marx the first objective was to eliminate the difference between the city and village or more accurately, perhaps, between the "social conscious" factory worker and the "feudalistic" peasant. Marx and Engels believed this could only be accomplished through the elimination of capitalism itself. (It is irrational that Marx chose to regard the maldistribution which limited mid-19th-Century capitalism as a flaw to be used to overthrow the system rather than as an evil to be overcome.)

continued on p. 218



Styertowne Shopping Center, Clifton, New Jersey
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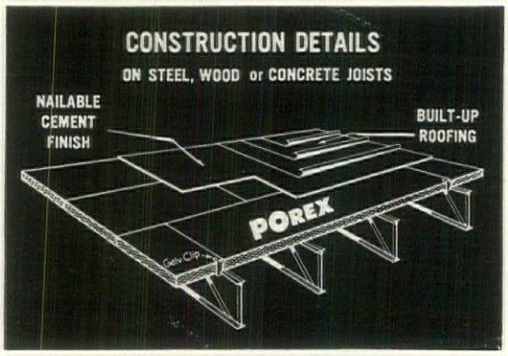
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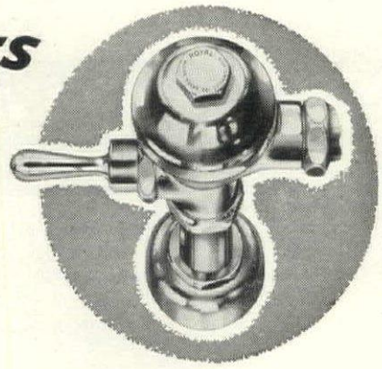
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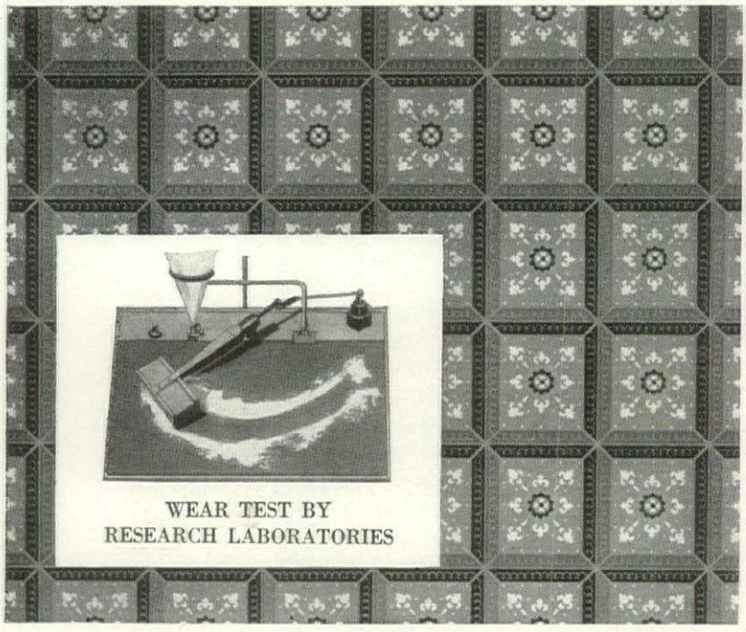
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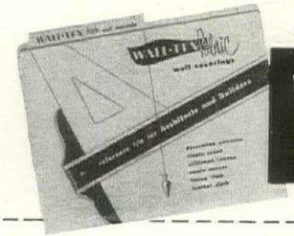


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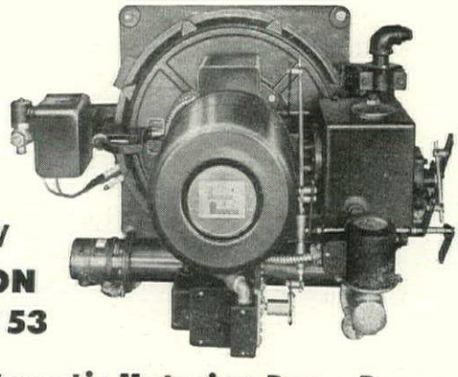
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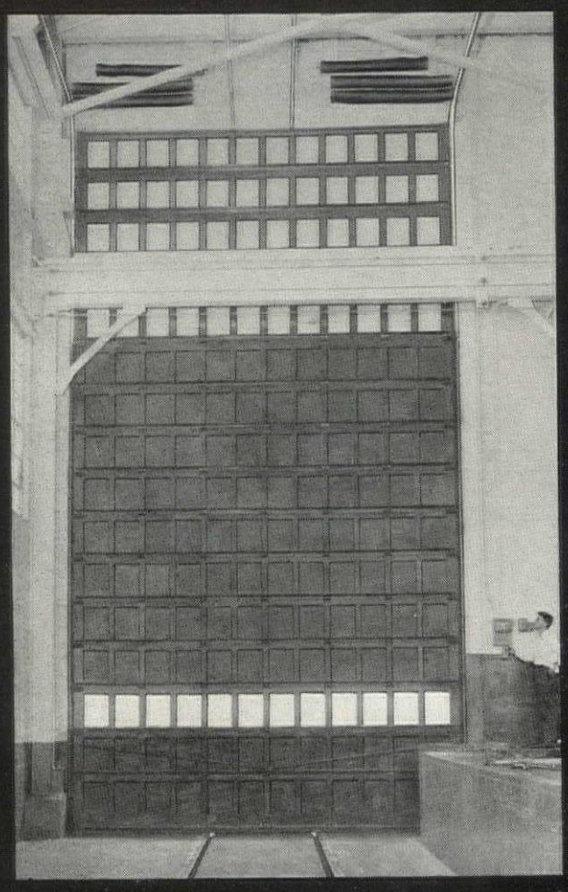
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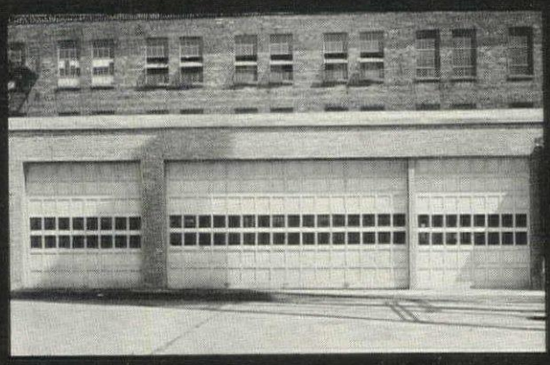
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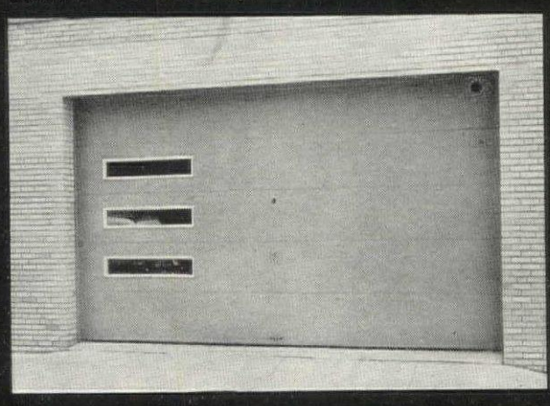
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HIGH is the word for this big Barcol in the railway loading room of the Beloit Iron Works, Beloit, Wisconsin—constructed 32′ high to clear the overhead crane rail.



WIDE loading area is provided by these three Barcols at National Lock Company. Center door is 27′ 9″ wide and 14′ high. Maintenance Foreman Tony Vincent says, "We have over 50 Barcol OVERdoors—some of them open and close over 250 times daily!"



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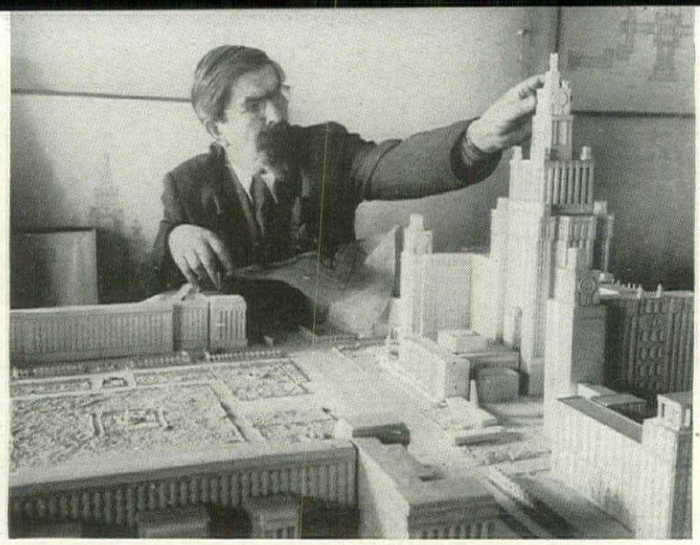
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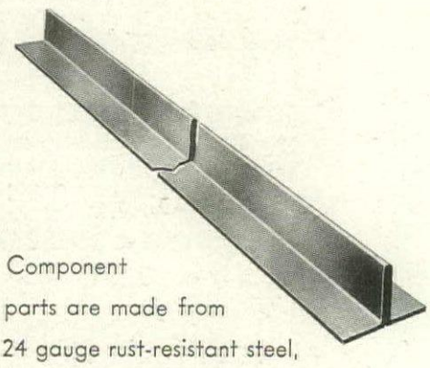


Moscow's favorite architect *Lev Rudnev and his prize-winning 26-story University Building — formal planning, pseudo-Gothic back cloths.*

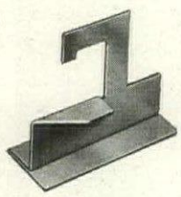
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BOOK REVIEWS *continued*

City planning was practically unknown in Russia before 1922, when the State Electrical Commission began to build planned settlements around the new hydroelectric power stations. Since then three phases of city planning can be traced: 1) an initial or trial-and-error stage from 1922 to 1931; 2) a transitional stage, still experimental, during which a national policy was laid down culminating in the Moscow Plan; and 3) a reconstruction stage from 1944 to 1950. In the initial stage European and US ideas were much discussed and in some cases followed. Architects were given a free hand and foreign advice was highly prized. Albert Kahn, Le Corbusier, Ernst May and many other foreigners worked in Russia during this period. Despite numerous master plans, actual construction was limited to high-priority buildings, factories and multistory superblocks. City planners were untrained; they theorized and made mistakes; in particular they neglected the environment and topography for which they were supposed to be planning.

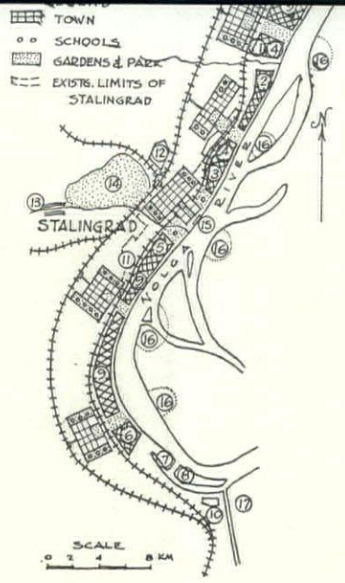
No new ideas in city planning have developed. Russian planners experimented with various city forms that might speed the distribution of heavy industry over the entire country: 1) the linear city where city functions were to develop along parallel lines (proposed by Corbusier) was rejected as being uneconomical in servicing and transportation after experiments in Magnitorsk; 2) satellite towns—where greenbelts separate industrial from residential areas. Novosibirsk was designed with neighborhoods for 5,000 people alternating with 1,500′ wide greenbelts; 3) "gigantomaniac" cities—tall superblocks uniformly "oriented to the best available principles of sanitation engineering." Example: Orsk by the Dutch planner Mart Stam. (This idea was later condemned as feudal.)

Moscow plan sets standard

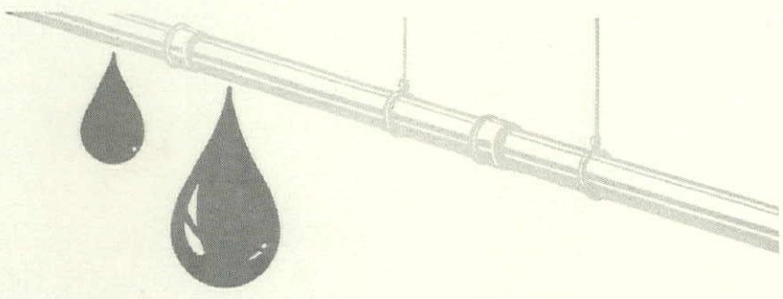
In 1931 a special Party plenum criticized architects for not relating their buildings to any over-all plan, for the crude imitation in a small town of features that were only practical in a major city and for a complete absence of human scale. They proposed 1) to reject all foreign influences; 2) to decentralize industry as far as practicable; 3) to curtail the size of large cities; and 4) to reconstruct Moscow as a model for Russian architects and, presumably, as a demonstration of Russian vitality to decadent foreigners.

The Moscow Plan developed after four years of all-Union competition. It provided for a maximum population of 5 million (present population about 4 million) in a city about 15 miles wide, surrounded by a 10-mile greenbelt. Parkways, subways and canals

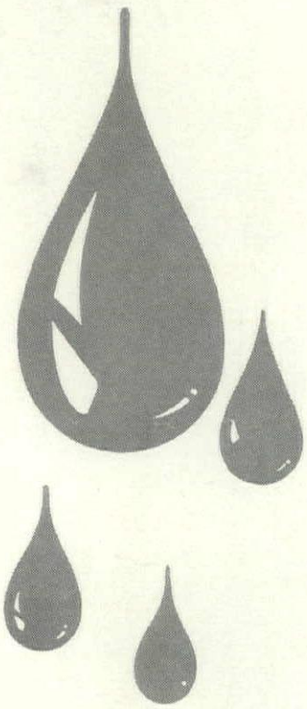
continued on p. 220



Typical dispersion city—*five communities around five industrial zones and surrounded by a farm belt. 1-7, factories; 8 & 15, port; 9, lumber mill; 10, shipbuilding; 11, hospital; 12, airport; 13, rest homes; 14, Park of Culture; 16, sport; 17, canal.*



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BOOK REVIEWS *continued*

running through city parks will link residential, commercial and industrial districts designed around a strongly developed civic and cultural center. Each residential district is to house 100,000 to 600,000 people together with all necessary administrative and service facilities. The emphasis is to be on livability and human scale as distinct from sheer monumentality; the directive requires intimate tree-shaded interior courts designed within residential superblocks, plus attention to esthetics, street furniture, vistas and a careful balance of high and low buildings. (All this sounds very nice but current photographs from Moscow show nothing but masses of highly grandiose Wrigley Buildings; if the intimate courts have been built, they must be carefully hidden.)

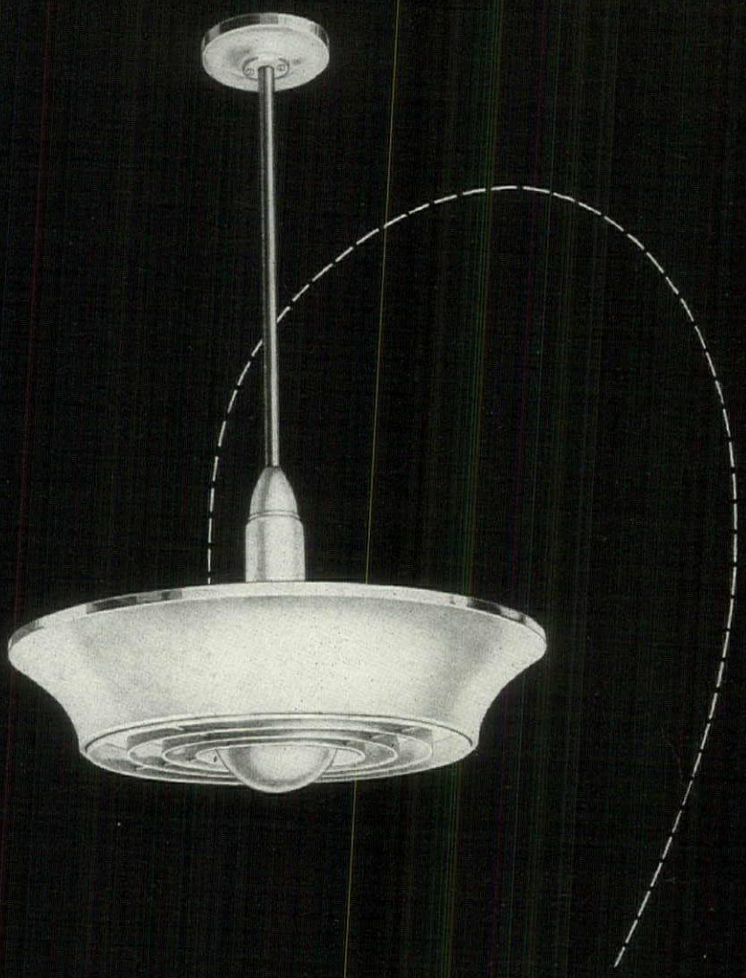
Over 300 Soviet cities were planned and some of them built along the lines of the Moscow Plan before World War II and 475 more after the war. In fact, so slavish has been the imitation that the architectural profession has been criticized for insufficient attention to the requirements of different cities and design teams are now sent out to each town to carry out their planning at the site. Further, while all prewar planning was from the top down, each town plan has now to be approved by the local inhabitants (in theory at least) before it is passed by Moscow. In reconstruction, architects are directed to retain the original city plan where it is of historical value or is simply practical. In style they must follow the traditional in both architecture and city planning. (This clause seems to be keeping Soviet designers and historians awake at night in attempts to define just what this "traditional" might be, as reflected by the numerous articles on the history of Russian architecture in their professional magazines. Current building in Moscow, including the prize-winning 26-story university building, seems to follow the pseudo-Gothic lead of the 1910 US classicists.)

Housing less socialistic

The crux of the Soviet architects' problem is how far to socialize individual and family life. Their difficulties are aggravated by the absence of standards—in accommodation, construction, design. In the Twenties the Party favored extreme ant-heap community houses where family life was broken into community kitchens, cafeterias, rest and recreation rooms built into huge multistory barracks. These proved unmanageable. The trend is now reversed in favor of one-family dwelling units built in economical two- and three-story garden apartments.

In each of four five-year plans, housing construction had sadly fallen short of proposed targets, mainly because of the shortage of building materials, lack of skilled

continued on p. 224



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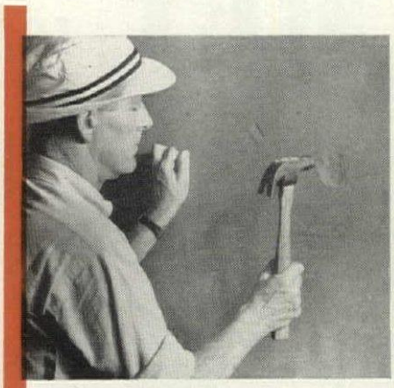
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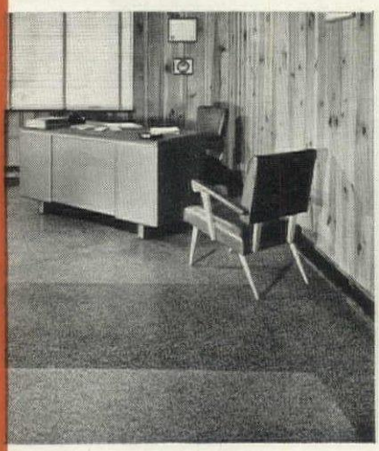
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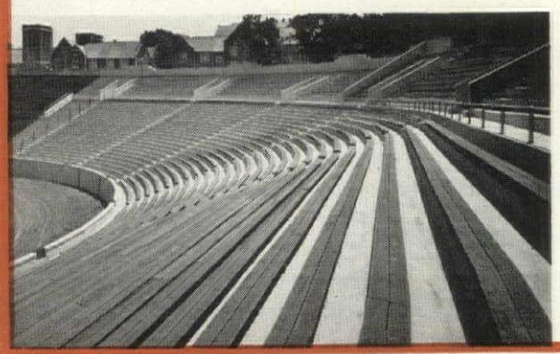
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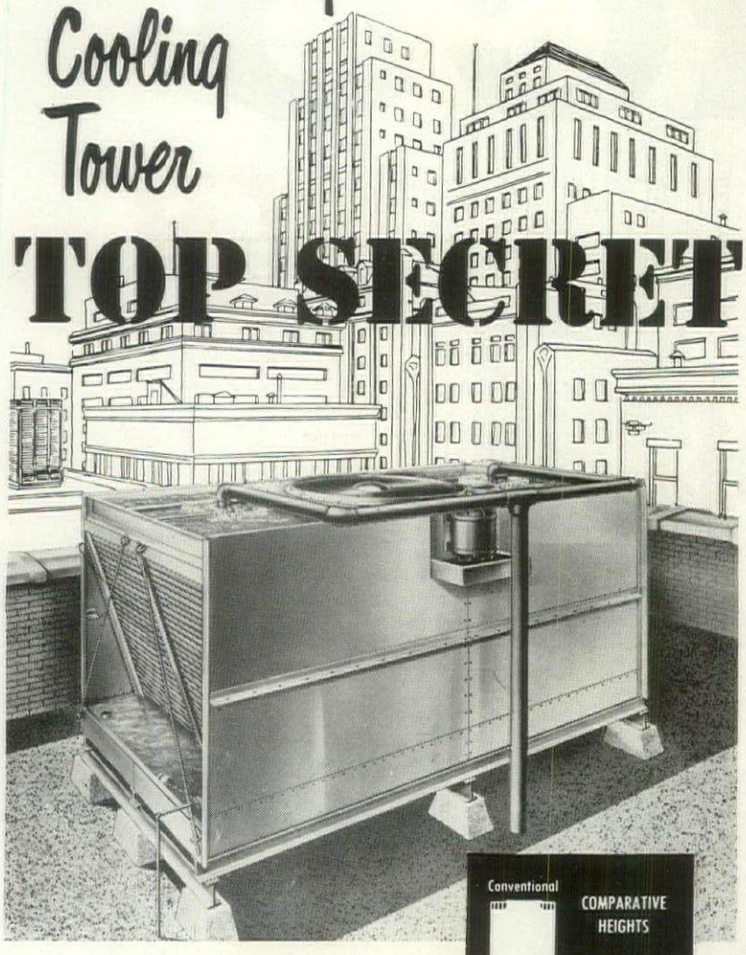
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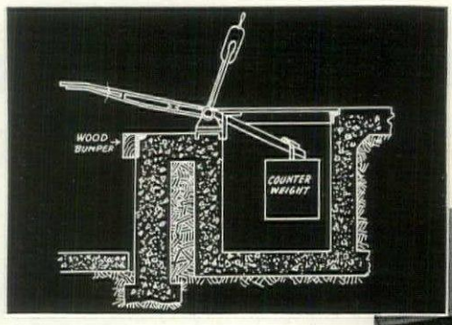
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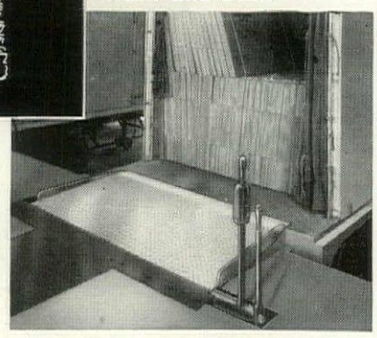
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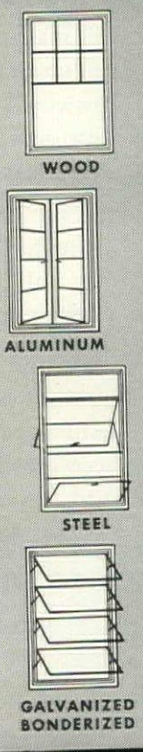
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architects and construction engineers and the Party's insistence that priority be given first to heavy industry, next to impressive public buildings that might "astound" foreign visitors. Housing, except for a few model projects here and there, languished near the bottom of the priority list.

After World War II the Party took drastic steps to speed housing construction, concentrating upon easily erected row housing and garden apartments and encouraging people to build for themselves wherever possible. For this purpose the state bank was authorized to provide loans up to 10,000 rubles per family and local authorities were directed to provide serviced land, free building materials and technical assistance. In 1947 there were 70,000 private houses built by the aid of this program, 40% of them by ex-servicemen. (One wonders what effect these incipient capitalists might have on the communist philosophy.)

Like his American counterpart, the Red architect (in Russia city planners are known as architects) has a client. In the USSR it is a ministry, a city soviet, an industrial trust or perhaps an agricultural development authority. All these groups and more are competing for the best building sites and the highest design and building priorities—thus state control of land does not seem to make land acquisition any easier than in feudalistic Manhattan. As coordinator each city has a chief city architect, an unenviable position that seems too much in the public eye for a successful career in Soviet Russia!

Russian architects pro-American . . . ?

Soviet architects and city planners (along with other intellectuals—artists, musicians and writers) are currently being purged by the witch-hunting committee of the Central Executive of the Communist Party. The architectural profession is accused of being "pro-Western, pro-American and generally cosmopolitan," though the grounds for such accusations are not clear (nothing so decadently bold as the Johnson Wax or the Lever House buildings yet adorn the Steppes). It is heartening to read that Soviet architects are striking back at the Party. In 1948 Academician Lev Rudnev, chairman of the Council of the Moscow Architectural House, vigorously, though somewhat dogmatically, wrote: "I deny the right of those not actively engaged in planning or construction to criticize the works of architects." Apparently this statement did not produce much response among the profession. But neither did it lower the high stature of Architect Rudnev for he later won a 100,000-ruble ($25,000 by "official" exchange rates) first prize for his pseudo-Gothic design of the 26-story Moscow University Building. In general, however, the healthy exchange of ideas that existed between Russian and Western architects in the mid-30's has been effectively squashed. Threats of quick removal for failure to follow current ideological lines has made the young architect timid; the stylistic pendulum has swung to "formalism and neoclassicism."

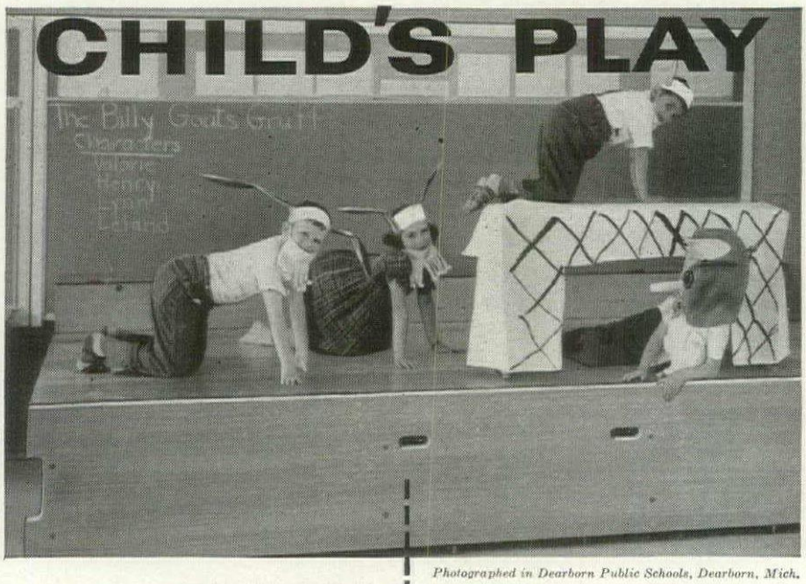
Many questions unanswered

Thus Mr. Parkins' 120-page thesis on Soviet city planning is necessarily inconclusive and leaves many important questions unanswered. Nevertheless he has done well to attempt such a difficult and unrewarding assignment and has laid the foundations for a more complete analysis when the iron curtain rusts away and Russian architects are less reticent about their work.

continued on p. 226

Teaching is

CHILD'S PLAY



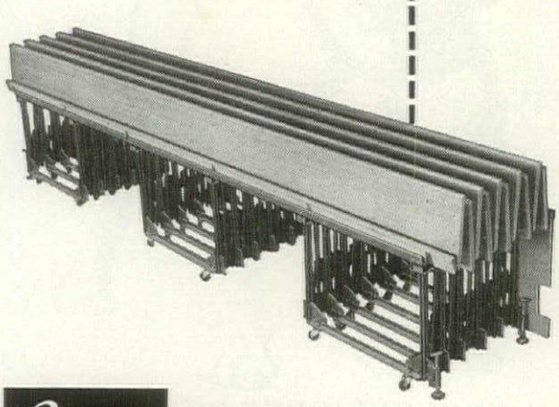
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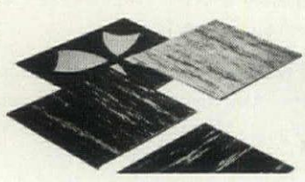
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BOOK REVIEWS *continued*

THE THEORY AND PRACTICE OF REINFORCED CONCRETE—New Third Edition. By Clarence W. Dunham, McGraw-Hill Book Company, Inc., 330 W. 42 St., New York 36, N. Y. 499 pp. 6½ x 9". Illus. $7

First published in 1939, this new third edition of "Theory and Practice" is rewritten in two volumes; this one on basic principles for undergraduates and a more advanced volume on indeterminate structures to be published shortly.

Professor Dunham (associate professor of Civil Engineering at Yale) has revised his book to conform with the 1951 design codes of the American Concrete Institute. The new volume gives greater emphasis than hitherto on precast and prestressed concrete, formwork and practical design problems. Throughout, the emphasis is on principles rather than formulas; design procedures are strongly related to practical details and planning of construction of the job. Both this and the second volume should prove useful additions to the architect's technical bookshelf.

PUBLIC GROUNDS MAINTENANCE HANDBOOK. By the Tennessee Valley Authority, Old Post Office Building, Knoxville, Tenn. 495 pp. 8" x 10½". Illus. $5

For 15 years the Tennessee Valley Authority has been actively engaged in the maintenance of vast areas of public grounds. Since little had been written on the subject, Engineer H. S. Conover started a loose-leaf handbook in order to help TVA field supervisors in their daily maintenance problems. This handbook has now developed into a treatise on public grounds maintenance which TVA has rightly decided to make available for public use.

The volume contains a wealth of practical information on the design and care of roads and public grounds, parking and picnic areas (including practical drawings of all kinds of outdoor furniture, from trash cans to picnic fireplaces), plus a useful chapter on materials specifications. Soil erosion is discussed in detail, together with comprehensive illustrated notes on vegetation and insect control. The volume is a by-product of TVA enterprise that should prove most valuable to landscape architects, highway engineers, and all authorities interested in keeping their natural surroundings pleasantly clean and flourishing.

1952 YEARBOOK OF THE AMERICAN SOCIETY OF SANITARY ENGINEERING. Published by the Society at 1308 Freemont St., McKeesport, Pa. 585 pp. 6" x 9"

Proceedings of the 46th Annual Meeting of the American Society of Sanitary Engineering at Miami, Fla., Nov. 15-20, 1952.

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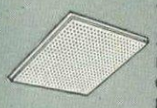
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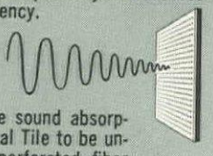
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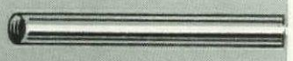
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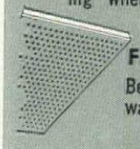


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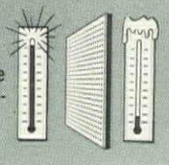
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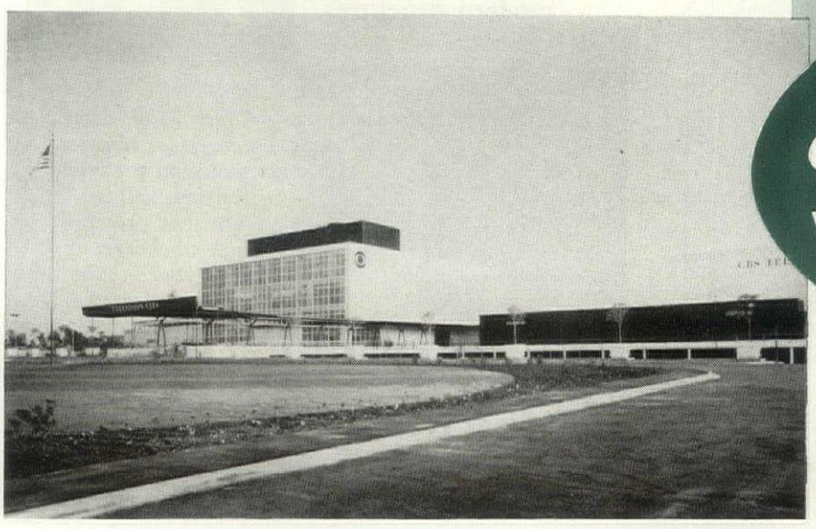


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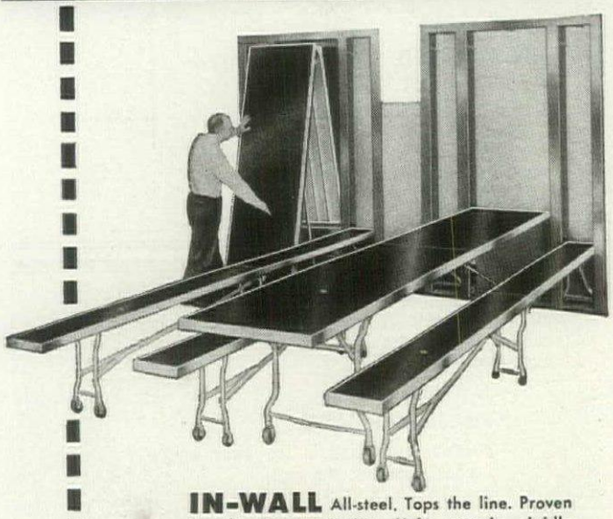
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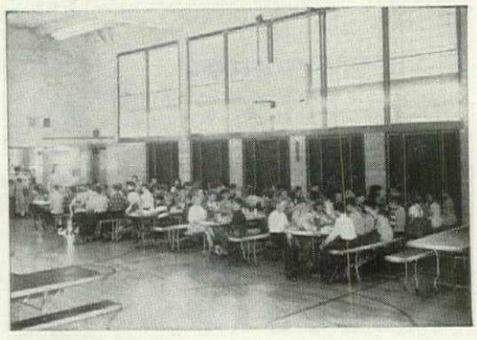
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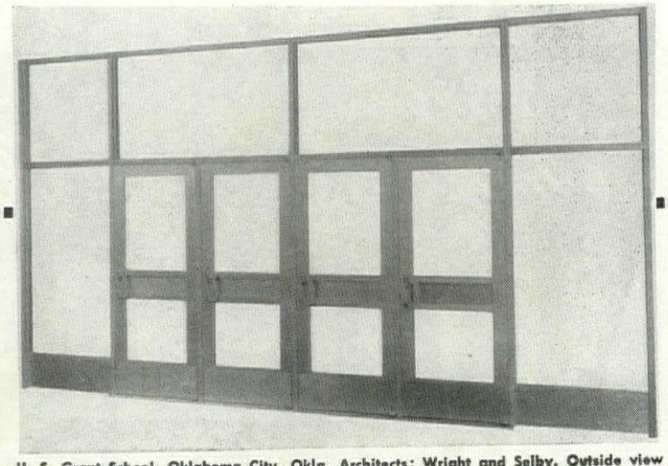
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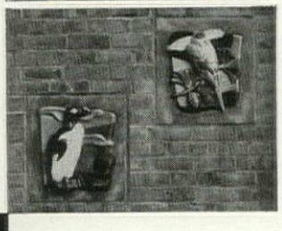
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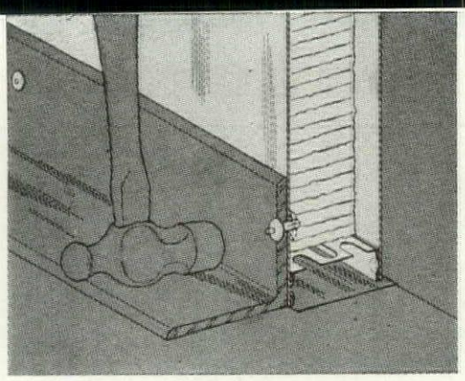
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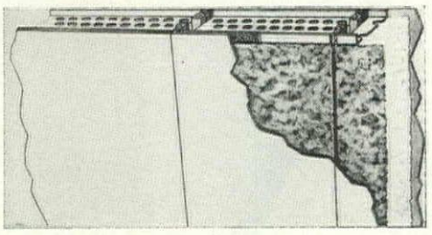
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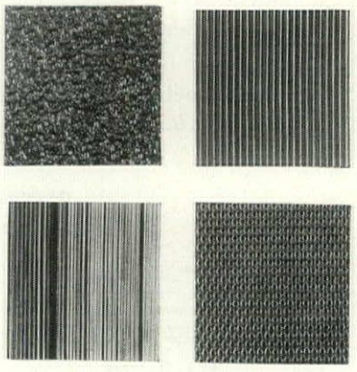


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Steelcraft's new insulated metal panels incorporate many features familiar in prefabricated curtain walls plus some sense-making new ideas. Selling for a modest $1.50 to $2.25 per sq. ft. (depending on facing material) the slim panels are engineered for the simplest kind of field assembly and, if necessary, disassembly. They may be "permanently" attached to the structural framing with a special type of speed rivet; adjacent sections are keyed one to another and secured with rivets. Hung this way, the panels can be removed at any time and relocated without damage. The sections also may be secured to the framing by intermittent arc welding, or fastened with bolts or sheet-metal screws.

Unlike some factory-made curtain panels that are sheathed with metal on the sides as well as front and back, and thus set up a heat-conducting sleeve, the Steelcraft unit has an isolated insulating core. There is no inside-to-outside metal contact to cut the efficiency of the 3" glass-fiber insulation. Even the panel's reinforcing web is separated from exterior and interior members by cork and neoprene gaskets. The entire wall surface has a heat loss of .15—about the same "U" factor as a wall of 8" masonry, furred, insulated and plastered. Yet the Steelcraft panel with steel skins weighs 6 lbs. per sq. ft. (3 lbs. with aluminum) as compared to 85 lbs. per sq. ft. for the masonry.

Because of the unique weatherproof interlocking joint, panels can be hung either vertically or as horizontal spandrels between strip windows. The panels come in a standard width of 2′ and in any length up to 20′. Special widths are available on order. Exterior surfacing materials are available with

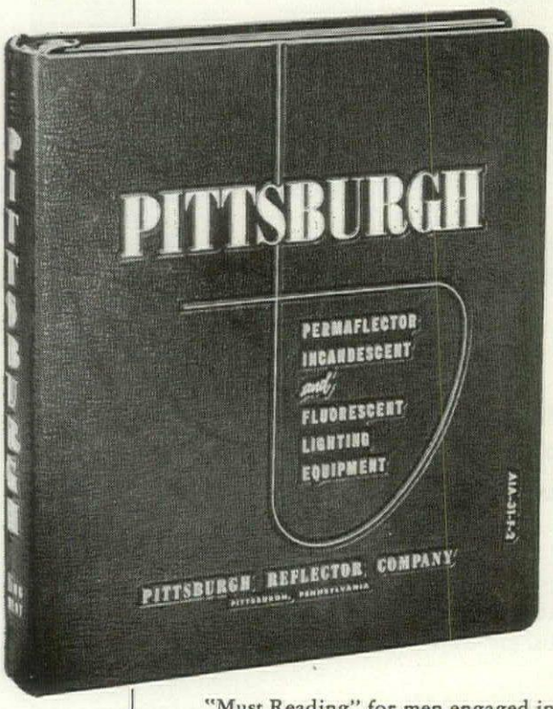


a flush or fluted pattern in a variety of textures and colors. Because of the smooth interior and exterior surface, shiftability, and good acoustic insulation, the moderately priced units also are practical for interior partitions or dividing walls.

Manufacturer: The Steelcraft Manufacturing Co., Rossmoyne, Ohio.

continued on p. 232

the comprehensive handbook



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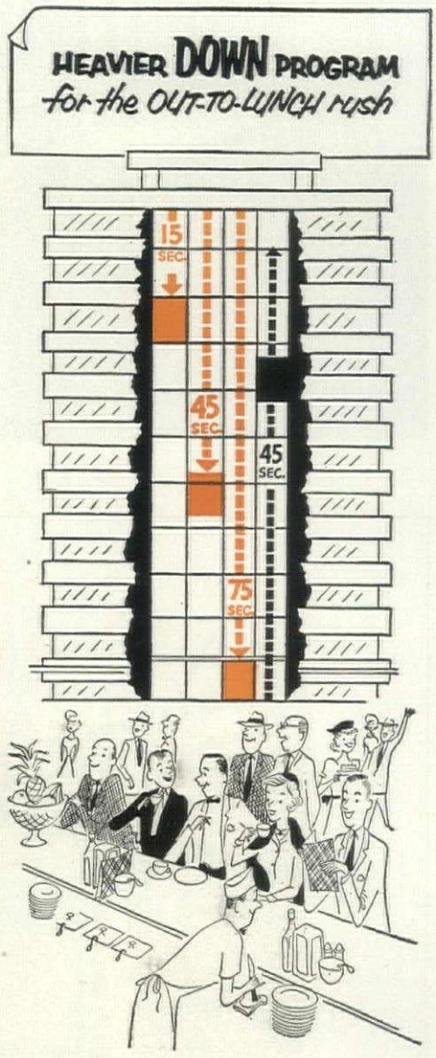
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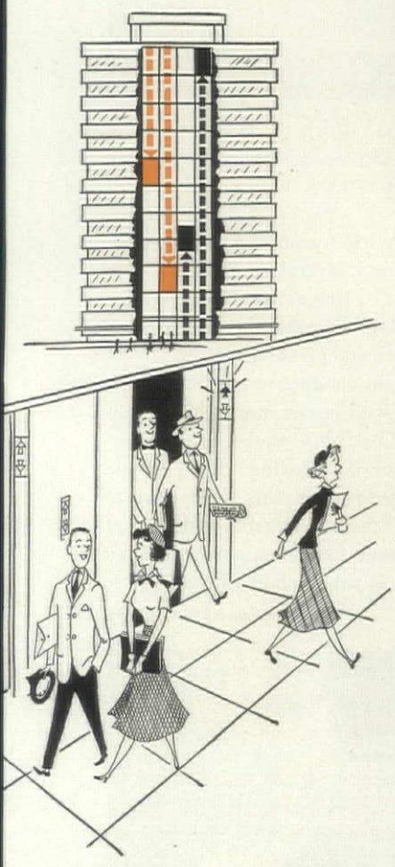


PROVIDES FREQUENT UP SERVICE



Car balance alternates between 3 cars down, 1 car up; and 2 cars down, 2 cars up

MAINTAINS MORE DOWN CARS



Autotronic—WITHOUT ATTENDANT—Elevatoring keeps service predominantly down at the start of morning and afternoon coffee breaks and lunchtime periods. At the same time, it continues to provide frequent up service.

A Heavier-DOWN program is illustrated above. 4 cars are shown operating on a 30 second dispatching interval.

The car balance alternates between 3 cars down, 1 car up; and 2 cars down, 2 cars up. This is accomplished by keeping the cars equally time-spaced. In this case, 30 seconds apart.

The down trip, with frequent stops to pick up passengers, takes 75 seconds. The return trip, because of lighter traffic demands, takes only 45 seconds.

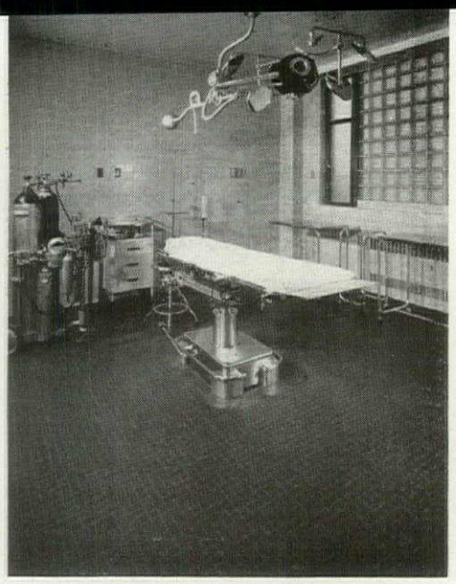
The fast return trip and automatic features of Autotronic supervision keep the cars equally time-spaced and maintain the alternating car balance.

Another program, Heavier-UP, keeps service predominantly up at the end of coffee breaks and lunchtime periods.

These two programs are exclusive Otis Autotronic features.

Autotronic—WITHOUT ATTENDANT—Elevatoring saves up to $7,000 a car, each year. 6 automatic programs operate the cars as a coordinated group. Program selection can be completely automatic. Diversified traffic can be handled in large, or small, office buildings, hotels, and hospitals. Ask any of our 266 offices about new or modernized installations. Otis Elevator Company, 260 11th Avenue, New York 1, N. Y.

BETTER ELEVATORING IS THE BUSINESS OF OTIS



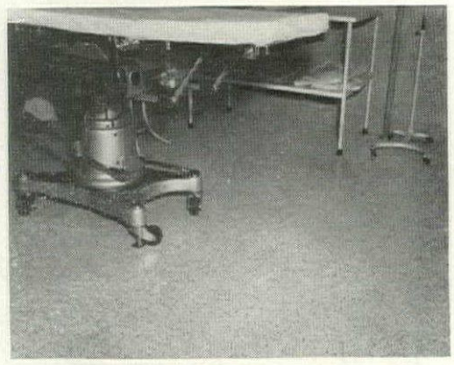
NEW PRODUCTS *continued*

CONDUCTIVE FLOOR TILE helps prevent explosions in operating rooms

Three years ago hospital administrators and planners were alerted to antistatic construction by some appalling statistics on accidental deaths of patients under anesthesia (AF, Feb. '50). Today, in many states, laws require that proper precautions be taken in selecting equipment for these hazardous areas to prevent a spark from igniting volatile anesthetic gases. Manufacturers are cooperating by producing explosionproof light fixtures, air conditioners and other appliances. But, as a bulletin of the National Fire Protection Association *Safe Practices for Operating Rooms* points out, unless static created by body movements can be dissipated where it will do no harm, other safety measures are worthless. Conductive flooring, laid in a bed of conductive adhesive or sand cement with pulverized carbon black (or no adhesive at all) used in conjunction with prescribed clothing, is an essential safety feature in an operating room.

One type of such flooring is the vitreous ceramic pictured above. Installed costs are about $2.50 per sq. ft. Pigmented warm brown, the 9/16″ squares make a rich but restful color combination with the manufacturer's soft green and gray-beige wall tiles.

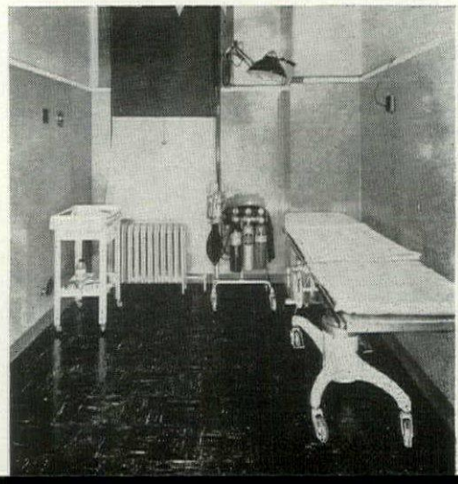
The terrazzo-patterned floor pictured below is actually vinyl tile and is installed without adhesive over any kind of subfloor. Waf-

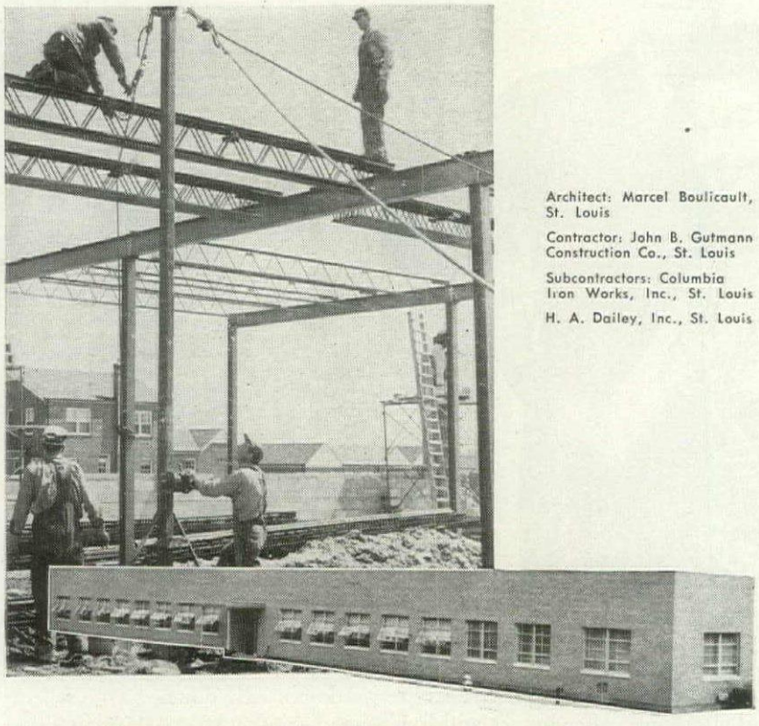


flebacked and ¼″ thick, it conducts static electricity from tile to tile through the tightly butted edges. It is available in three pastel tones in 9″ and 1′ squares at $2.50 per sq. ft., in place. Waxing—which tends to reduce conductivity after several applications—is not required for maintenance. Heavy-gauge aluminum foil laid beneath the tile assures faultless and permanent conductivity.

Another resilient conductive tile is the marbleized (black with green and white striations) 9″ vinyl *Conductile* shown in the operating room below. Having the "shape memory" characteristic of this thermoplastic material, the ⅛″-thick tile resists indentation and marring from heavy equipment. Like the ceramic tile, it can be laid with adhesive.

continued on p. 236





Architect: Marcel Boulicault, St. Louis

Contractor: John B. Gutmann Construction Co., St. Louis

Subcontractors: Columbia Iron Works, Inc., St. Louis

H. A. Dailey, Inc., St. Louis

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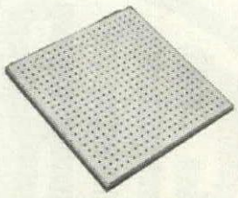
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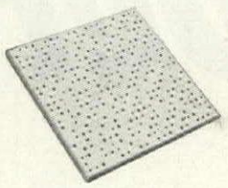
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ACOUSTI-CELOTEX*
FLAME-RESISTANT SURFACED TILE

A cane fibre tile with a flame-resistant surface. This tile meets *Slow Burning* rating contained in Federal Specifications SS-A-118a. It may be washed with any commonly used solution, satisfactory for good quality oil-base paint finishes, without impairing its flame-resistant surface characteristics and without loss of sound-absorbing capacity. Repainting with Duo-Tex* flame-retarding paint will maintain peak efficiency. Supplied in all sizes and thicknesses of regular cane tile.

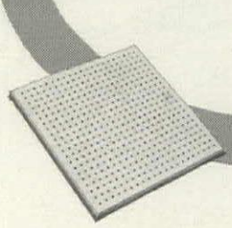


ACOUSTI-CELOTEX*
RANDOM PATTERN PERFORATED TILE

Protected by U. S. Design Patent D 168763. A dramatically beautiful new cane fibre tile offering exciting new decorative possibilities for interiors of every type. Has sharp perforations of varying size arranged in random fashion, and a pattern that minimizes joint lines. Rich, linen-like surface that gives better light diffusion. High sound-absorbing value. Can be washed repeatedly, painted repeatedly.

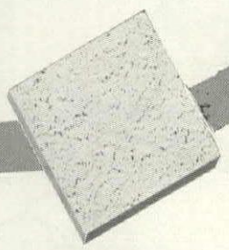


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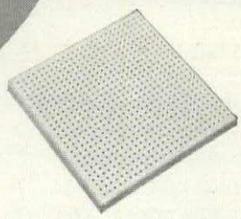
ACOUSTI-CELOTEX*
CANE FIBRE TILE

A lightweight, rigid unit, combining acoustical efficiency with a durable, smooth surface. Perforations (to within 1/8" of the back) assure repeated paintability, easy maintenance. Available in a variety of sound-absorbing ratings. Protected against termite attack and dry rot by exclusive Ferox* process.



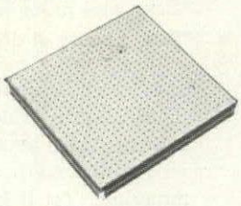
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A completely new mineral fibre tile with deep, irregularly shaped and spaced fissures that produce a pattern strikingly similar to travertine marble. Excellent sound-absorption qualities. Light, rigid, incombustible. Soft, flat white finish of high light reflection value. Washable, paintable.



ACOUSTI-CELOTEX*
MINERAL TILE

Made of mineral fibre, felted with a binder to form a rigid tile with a universal rating of incombustibility. Perforated with small holes extending almost to the back, this tile provides high acoustical absorption plus unrestricted paintability by either brush or spray method.



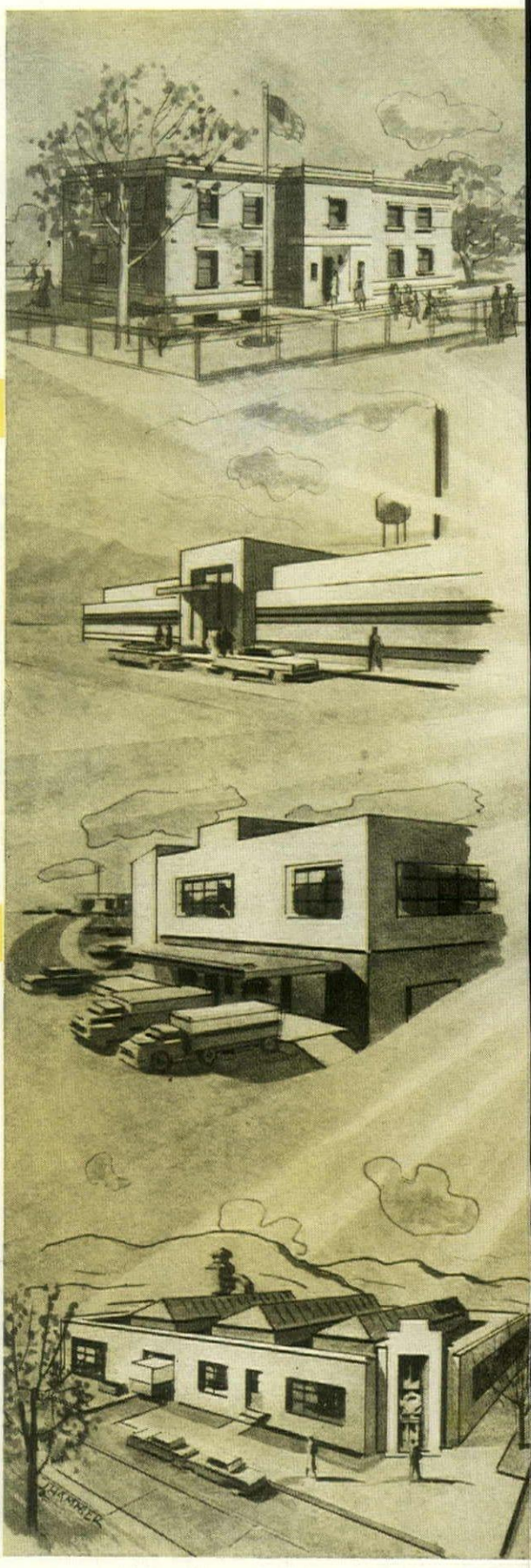
ACOUSTEEL*

Combines a face of perforated steel with a rigid pad of sound-absorbing Rock Wool to provide excellent sound-absorption, together with attractive appearance, durability and incombustibility. The exposed surface of perforated steel is finished in baked-on enamel. Acousteel is paintable, washable, cleanable.

**Trademarks Reg. U. S. Pat. Off.*

CORBIN

Defender



A new, moderately-priced cylindrical lock for today's buildings!

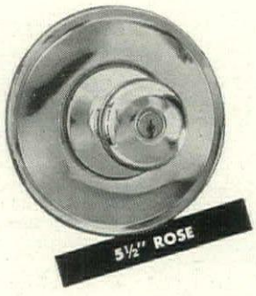
IT'S THE BIGGEST HARDWARE NEWS OF 1953!

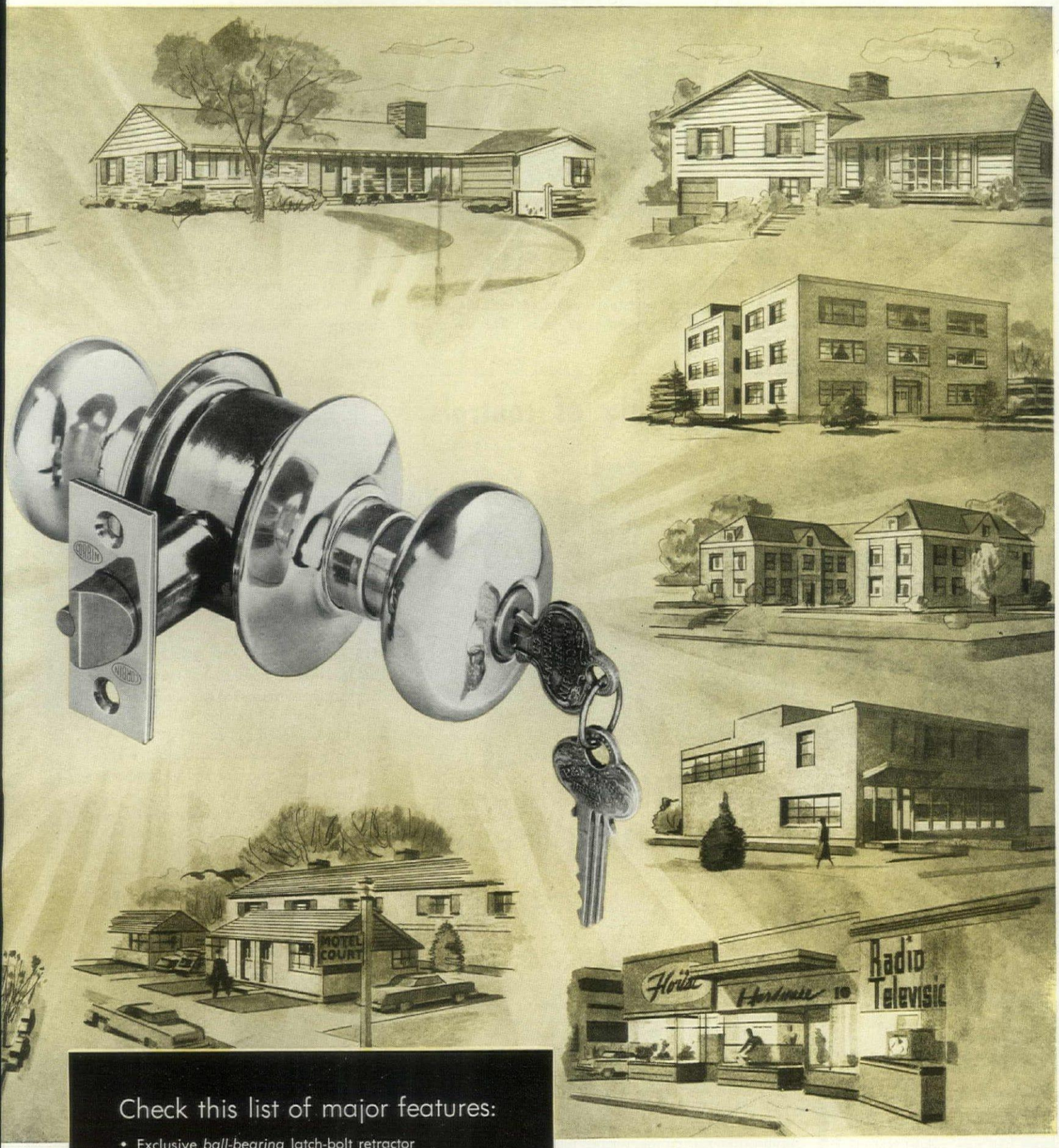
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*New beauty of design and finish

The Corbin Defender is a major advancement in its class. In its design and construction . . . in its exclusive features, you will immediately recognize *superb* engineering and *superior* materials. Yet it is moderately priced. You can specify the Corbin Defender with the utmost confidence . . . for light commercial and residential installations where *both* trouble-free service and economy are required.









Check this list of major features:

- Exclusive *ball-bearing* latch-bolt retractor
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- All internal parts zinc-plated, di-chromated steel
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- Meets Federal specifications Type 160
- Thirteen popular functions
- One mortise for all functions

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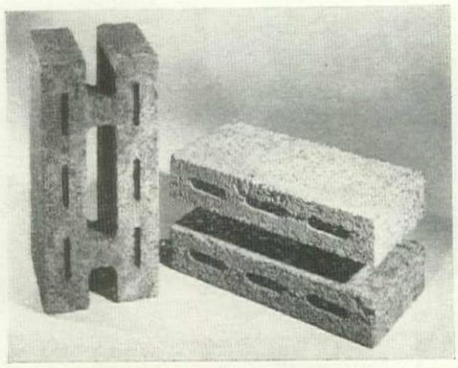
P. & F. CORBIN Division
The American Hardware Corporation
New Britain, Connecticut, U.S.A.

Price per sq. ft. runs $2.25 to $2.50 installed. Conductivity is guaranteed for five years.

Manufacturers: ceramic tile—Mosaic Tile Co., Zanesville, Ohio; *Lifetime* tile—Robbins Floor Products, Tuscumbia, Ala.; *Conductile* —Vinyl Products, Inc., Sheboygan, Wis.

CONCRETE BLOCK designed for cavity or reinforced wall

A webbed building block suitable for either cavity or reinforced wall construction has been developed by Brooklyn Architect Morris Lapidus (not to be confused with the noted store designer of same name). The ingenious concrete unit weighs 35 lbs. and is comprised of two 7⅝" x 15⅝" slabs integrally joined together by two 3" high webs cast 5" from the bottom of the block. Each slab is formed with three insulating cores tapering from ¾" at bottom to ⅜" at top. The coned shape of these slots affords good insulation with minimum loss of strength and provides keys for mortar. When the block is used right side up (the top is shown on the left block in picture above) loose insulating material may be poured into the 2"-wide cavity between the faces to bolster the insulating value of the slots. Laid bottom side up, reinforcement can be accommodated vertically or horizontally and the grout is poured into the continuous trough formed between adjacent block. According to the inventor, the reinforced units can be used for bearing walls in structures as high as 12 stories. They also will serve as backup block in semi-fireproof apartment-house construction. Price is expected to be about 25¢ per unit.



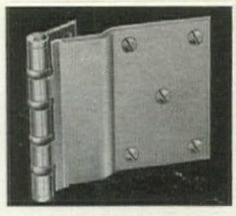
Designer: Morris Lapidus, 9031 Fort Hamilton Parkway, Brooklyn, N. Y.

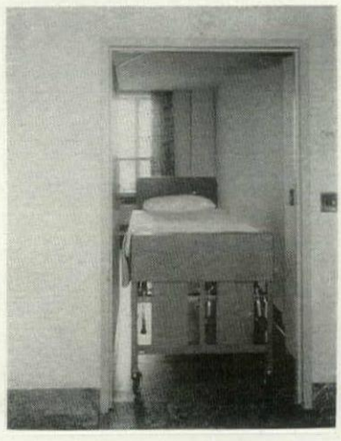
OFFSET HINGE throws door wide open

Looking over a hospital hardware problem that had been overlooked, the Stanley Works came up with a unique wide-throw door hinge. Designed to offset a 1¾" door at a 90° angle, the new ball-bearing hinge allows full clearance of corridor and bedroom openings for beds and utility wagons. The hardware, tagged *BB 260*, also obviates the need for mortised metal strips on doors to protect them from cart and bed bumps. Self-lubricating, the hinge is made of heavy wrought steel and is available in all standard finishes or primed for painting.

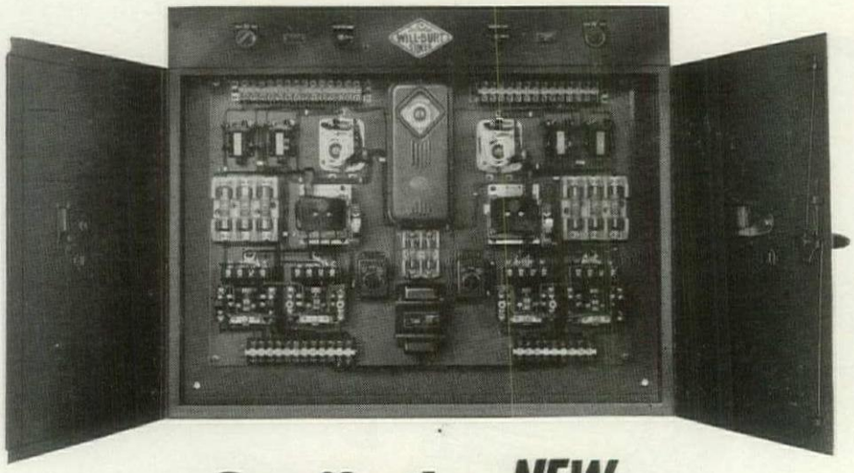
Manufacturer: The Stanley Works, New Britain, Conn.

Technical Publications p. 240





Eliminate "piece-meal" assembly of controls



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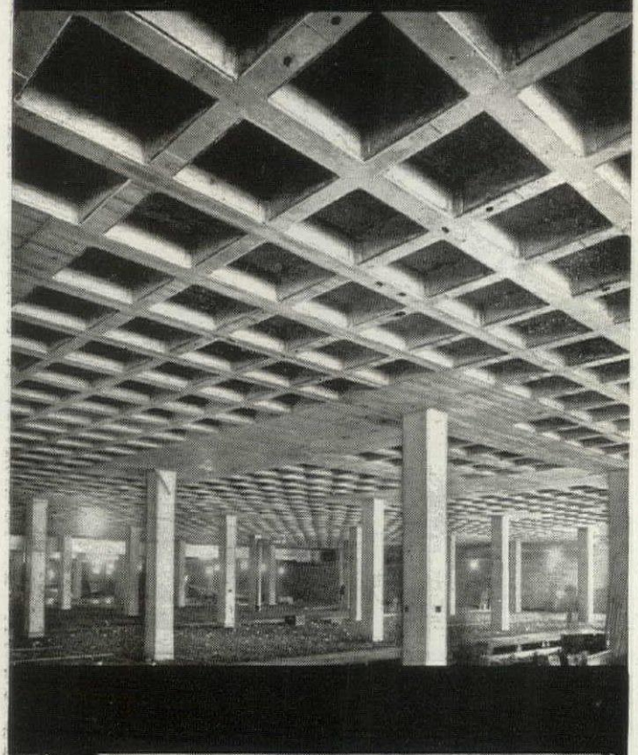
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Murphy & Mackey, architects, saved $50,000.00 by using concrete joist construction instead of solid slab in the Bishop DuBourg High School, St. Louis, Missouri.

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Yessir, the *new* National Electric "XDUCT" Conduits fish *easier* than the five other leading brands of conduit on the market today. That's BIG news and we're mighty proud of it.

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"XDUCT" RIGID STEEL THREADED CONDUIT



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FIRE RATINGS. Fire Resistance of Concrete Floors, Building Materials and Structures Report 134. Government Printing Office, Washington 25, D. C. 11 pp. 8½" x 11". 15¢

MARBLE. Proof that Marble Costs Less. Marble Institute of America, Inc., 108 Forstor Ave. Mt. Vernon, N. Y. 20 pp. 8½" x 11"

METAL LATH. Reinforcing Plaster with Expanded Metal Lath, Bulletin No. 4. Metal Lath Manufacturers Assn., Engineers Building, Cleveland 14, Ohio. 4 pp. 8½" x 11"

CONSTRUCTION. Live Loads on Floors in Buildings, Building Materials and Structures Report 133. Government Printing Office, Washington 25, D. C. 27 pp. 8½" x 11". 20¢

LIGHTWEIGHT PLASTER AND CONCRETE. Recommended Building Code Requirements for Vermiculite Plastering, Acoustical Plastic, Fireproofing, and Concrete. Vermiculite Institute, 208 South La Salle St., Chicago 4, Ill. 16 pp. 8½" x 11"

SUSPENDED CEILING SYSTEM. Suspended Ceilings. Lok-Products Co., 5109 San Fernando Rd. West, Los Angeles 39, Calif. 4 pp. 8½" x 11"

HEATING. The "66" Series National Gas Boiler, Catalogue No. 607. The National Radiator Co., Johnstown, Pa. 6 pp. 8½" x 11"

LIGHTING. American Standard Practice for Street and Highway Lighting. Illuminating Engineering Society, 1860 Broadway, New York 23, N. Y. 32 pp. 8½" x 11". 50¢

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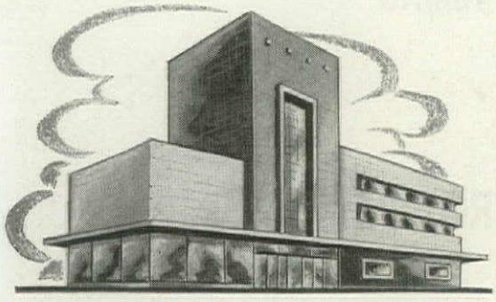
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COLOR. Color Standards and Color Research. American Color Trends, Research Division of Faber Birren & Co., 500 Fifth Ave., New York 36, N. Y. 20 pp. 3½" x 6"

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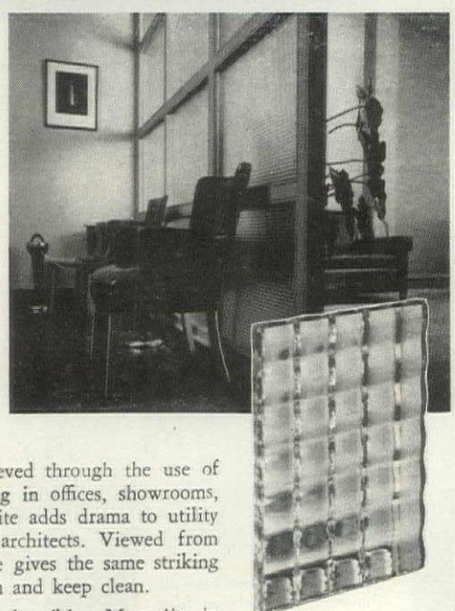
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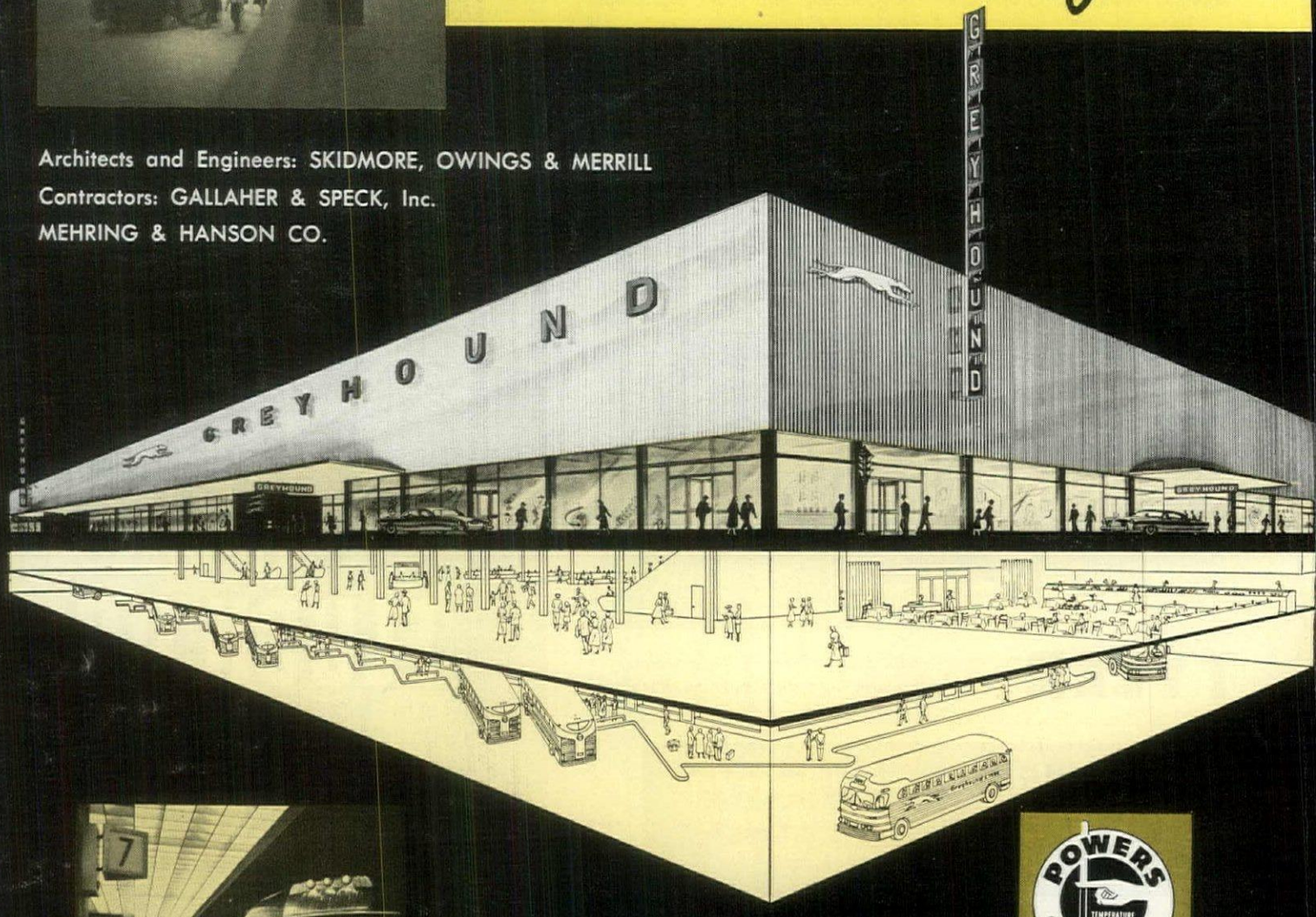
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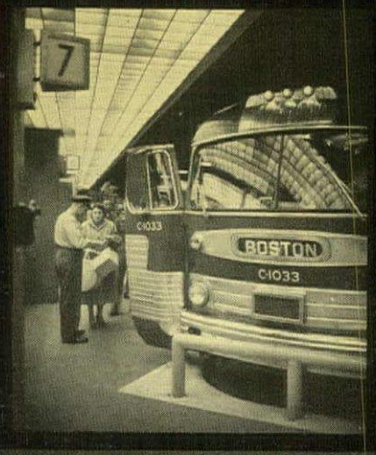
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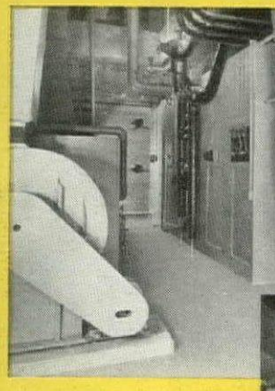
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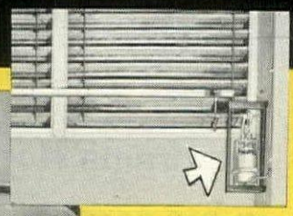






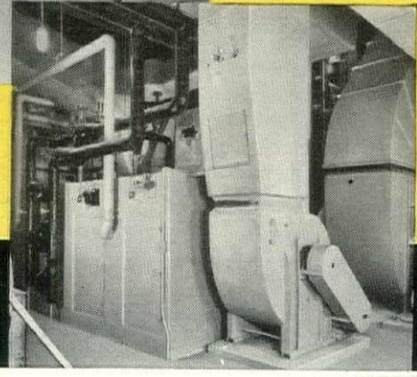
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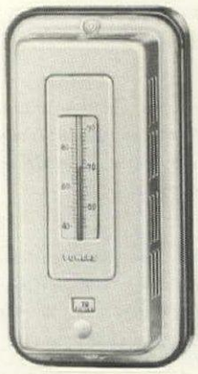
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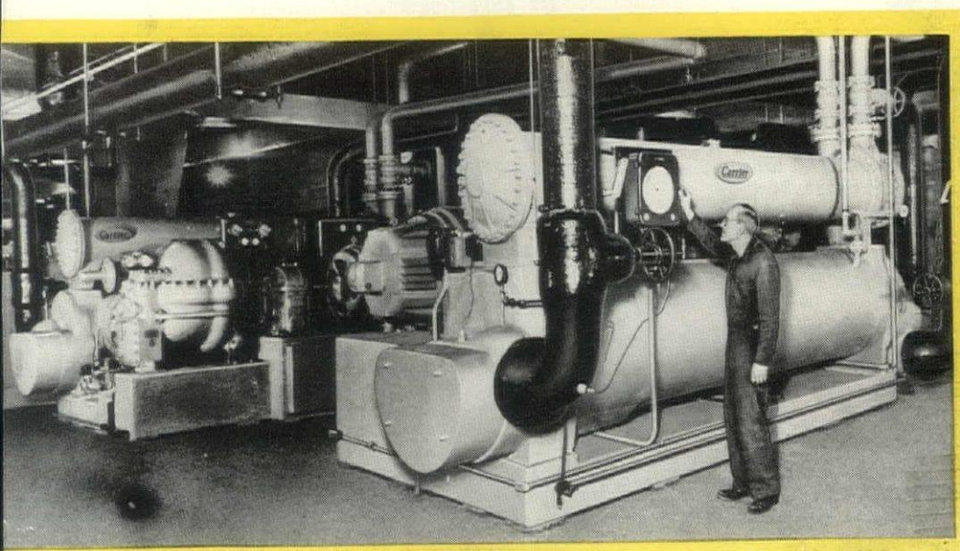
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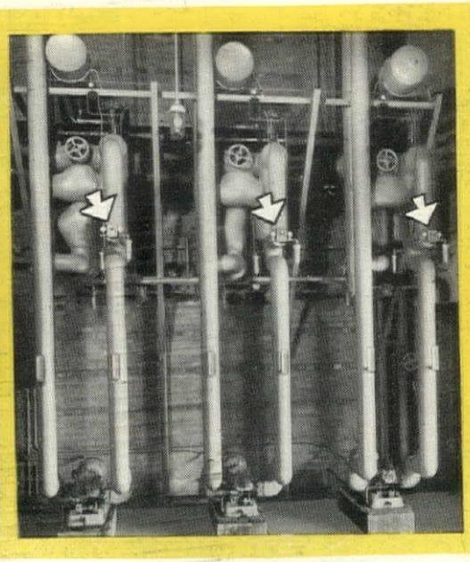
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(b16)



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INDUSTRIAL AND INSTITUTIONAL FURNITURE. Tables of Distinction. The Chicago Hardware Foundry Co., N. Chicago, Ill. 11 pp. 8½" x 11"

FASTENERS. The L-Shaped Stronghold Fence Staple, Bulletin No. 11. Virginia Polytechnic Institute Wood Research Laboratory, Blacksburg, Va. 19 pp. 6" x 9"

AIR CIRCULATION. Airfoil Centrifugal Fans, Catalogue 1320. Westinghouse Sturtevant Div., Dept T-060, 200 Readville St., Hyde Park, Boston 36, Mass. 8 pp. 8½" x 11"

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AIR CONDITIONING. Air Conditioning Investment Analysis. General Electric, Bloomfield, N. J. 4 pp. 8½" x 11"

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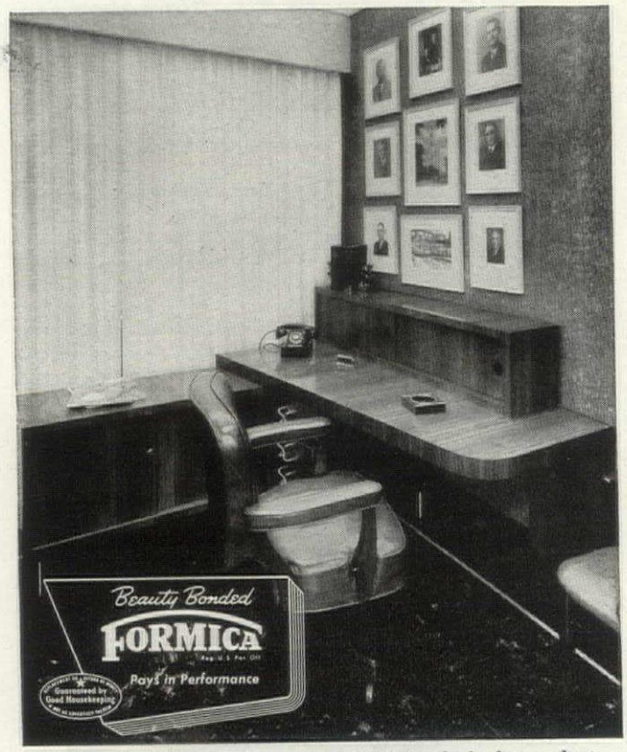
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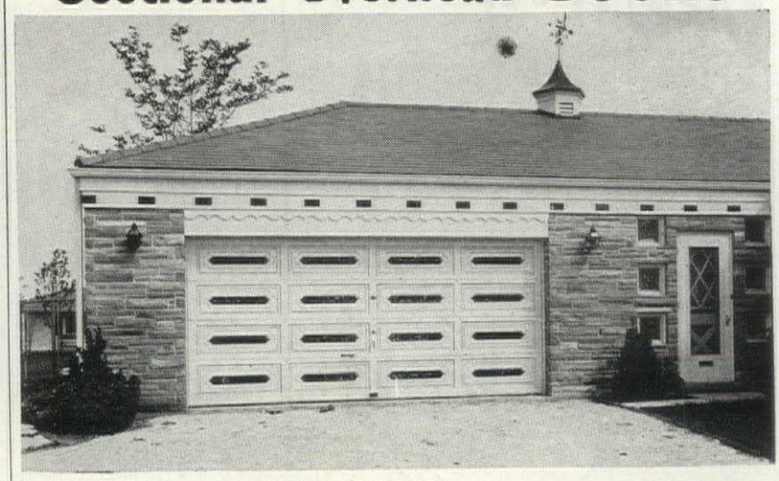
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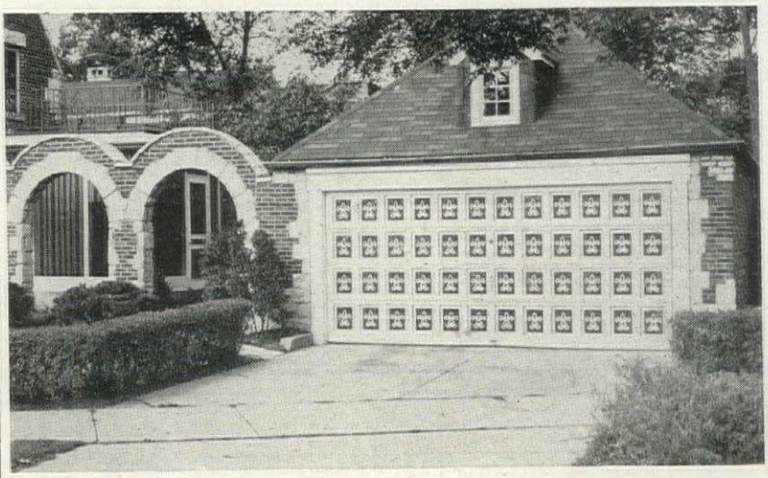
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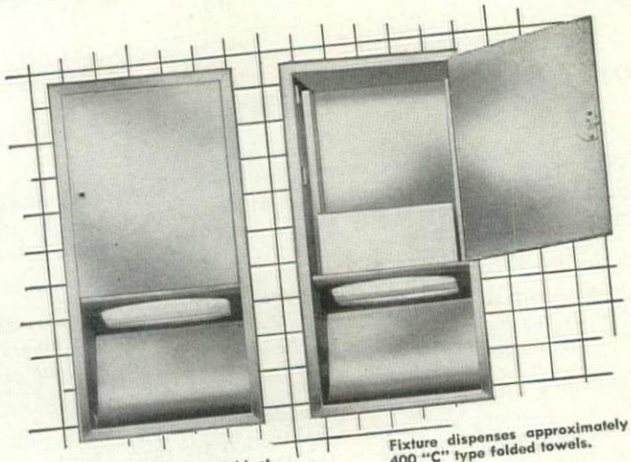
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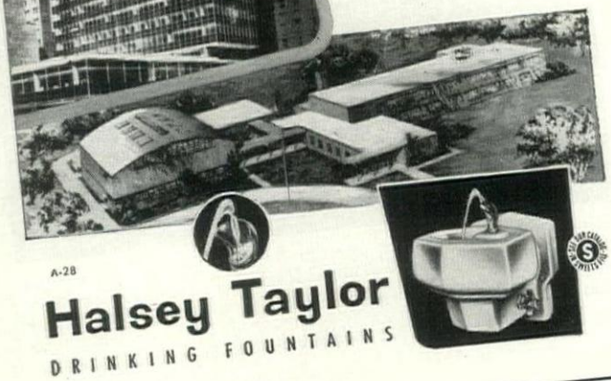
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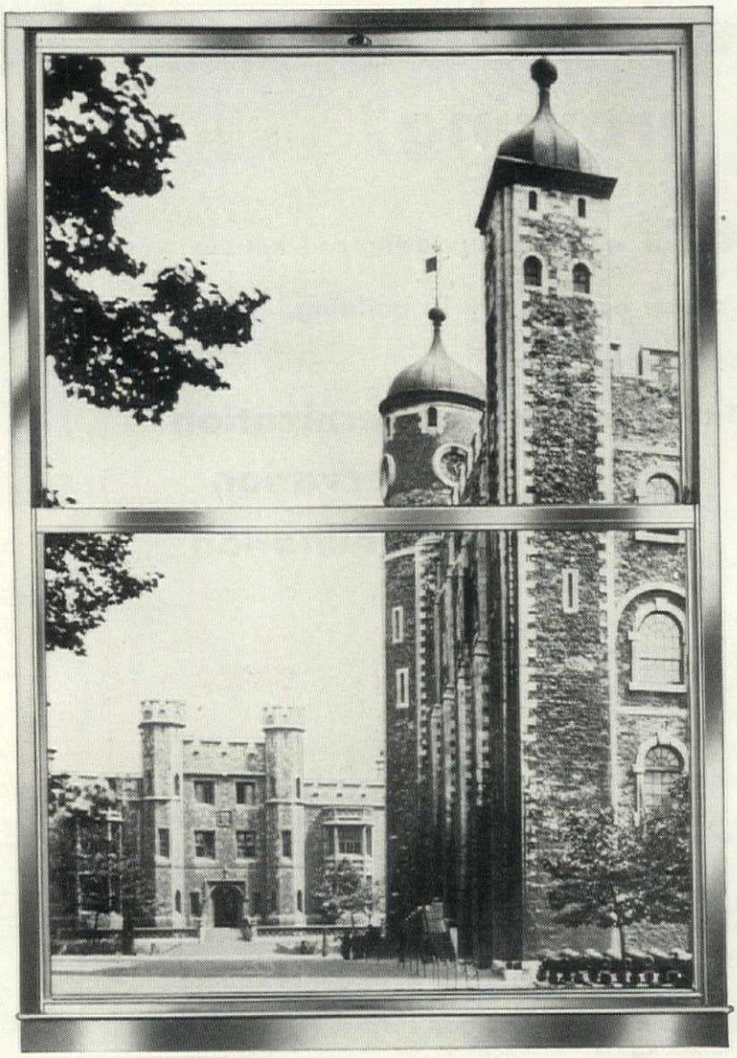
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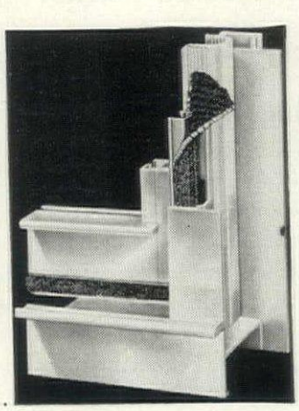
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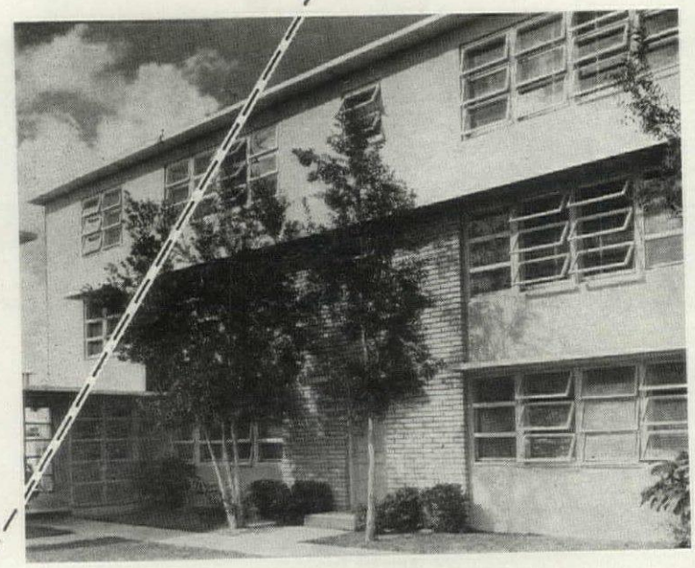
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You never see this hand because it belongs to the Invisible Dor-Man. Nothing you see or hear reveals his presence—yet he's *always* there on the job, opening and closing doors with utmost efficiency. From every standpoint—low price, trouble-free performance, safety, and automatic dependability—the Invisible Dor-Man, electrically operated hydraulic door control, is ideal for every type of door in every type of building.



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THE **MODERN** AUTOMATIC DOOR CONTROL

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Dor-O-Matic concealed door controls for manual operation are available in sixteen models.

write for complete information

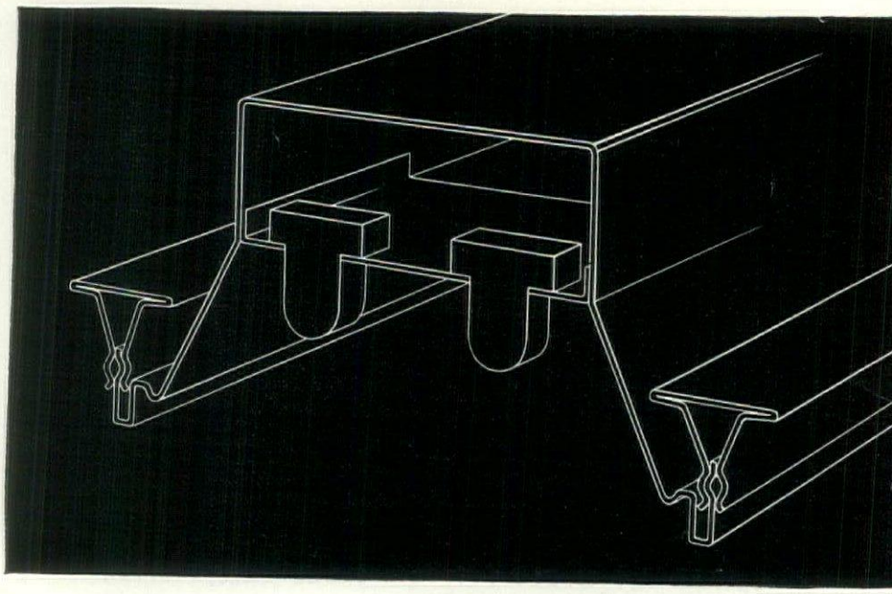
DOR-O-MATIC
Division of
Republic Industries, Inc.
4440 N. Knox Ave., Chicago 30, Illinois

Architect: Benham, Richards and Armstrong, Columbus, Ohio

Contractor: Paul L. Gilmore Company, Columbus, Ohio

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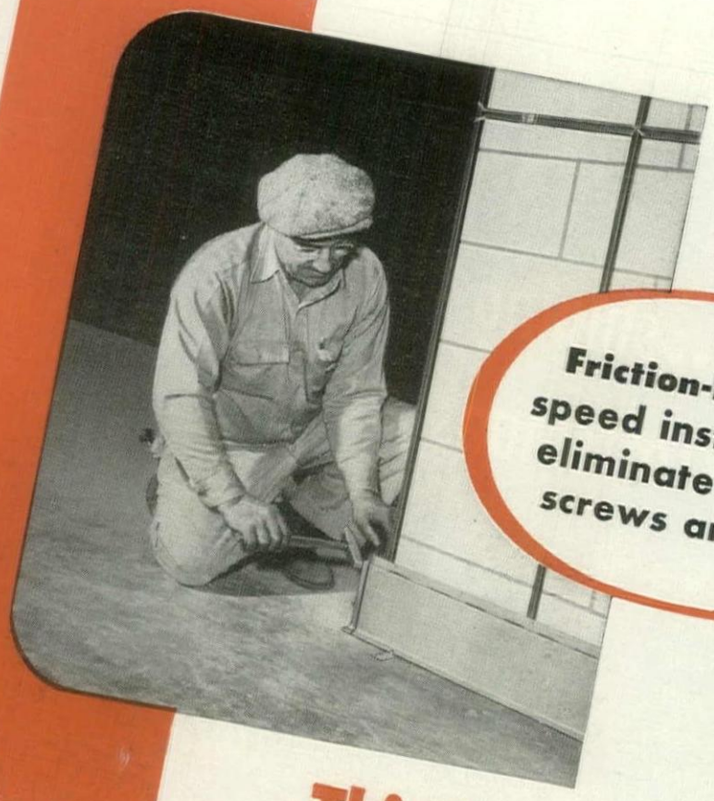
university roof...shining example of Overly craftsmanship

The front section of the main building of Wayne University, Detroit, Michigan, has a new aluminum roof—Overly-Goodwin batten type. The old, leaking tile roof was removed and replaced by this economical, patented aluminum roofing. Overly first took field measurements, then prefabricated the roof for later erection. From an appearance angle, the improvement is marked, but the main advantage is the permanent elimination of leakage and maintenance. Future plans call for re-roofing of additional sections of this building. ● *For further information send for catalog 7-B.*

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Friction-Fit Fittings speed installation — eliminate unsightly screws and welds



This is MILCOR* 605 Metal Base

Tap It Together . . . It Lasts a Lifetime

Just tap it together — that's all there is to it! Thanks to friction-fit fittings, no punching or screws are needed. Installation is faster and you get a better looking job as well as a substantial savings in construction time. The illustration, at the lower right, shows how easy it is to use.

Sanitary, fire-safe, and durable, Milcor No. 605 Metal Base is ideal for use with asphalt, rubber tile, or linoleum floors. It has a prime coat for easy finishing to match or contrast with wall color. Moreover, it does not pull away from the wall — does not crack or splinter. That's why you find Milcor No. 605 Metal Base in your most modern buildings, such as hospitals, schools, hotels, apartments, office and industrial buildings.

No. 605 is representative of a complete line of Metal Base available for all types of installation. If you need further information, just write us and we'll take care of your request immediately.

Sections are neatly joined by use of a flat splice or aligning plate. No punching is required and there are no exposed screws.

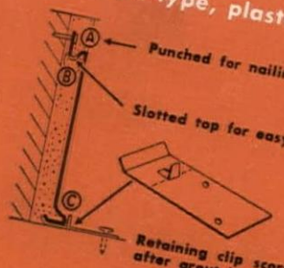




Friction-fit fittings (no punching; no screws)

1. Outside corner fittings — square or ¾" radius, cast.
2. No. 605 Metal Base Section — 4" and 6" heights in standard 10-ft. lengths.
3. Inside corner fittings — square or ¾" radius, cast.
4. End-stop — left and right hand, cast.

Flush-type, plastered-in design



- A — Punched for nailing to wall
- B — Slotted top for easy entry of grout
- C — Retaining clip scored to break off after grout is set

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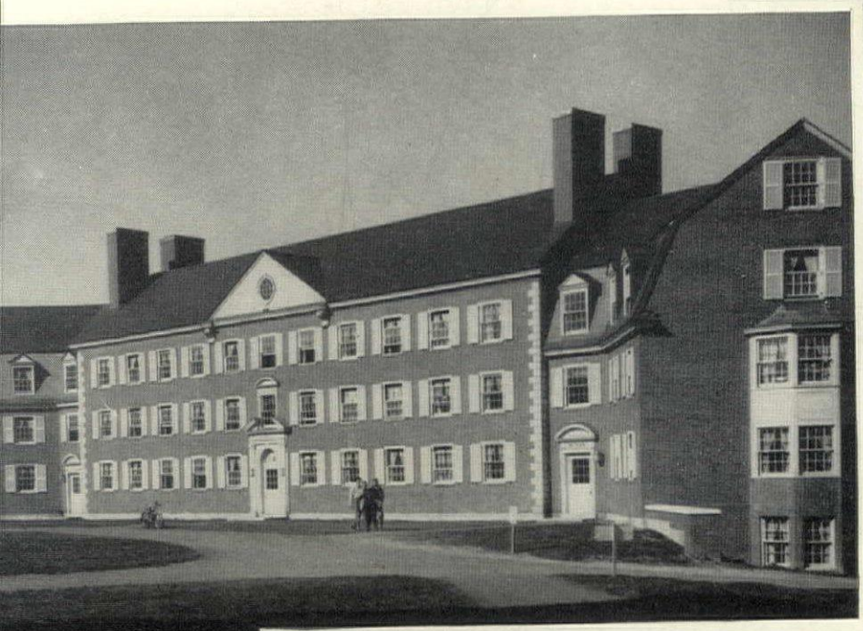
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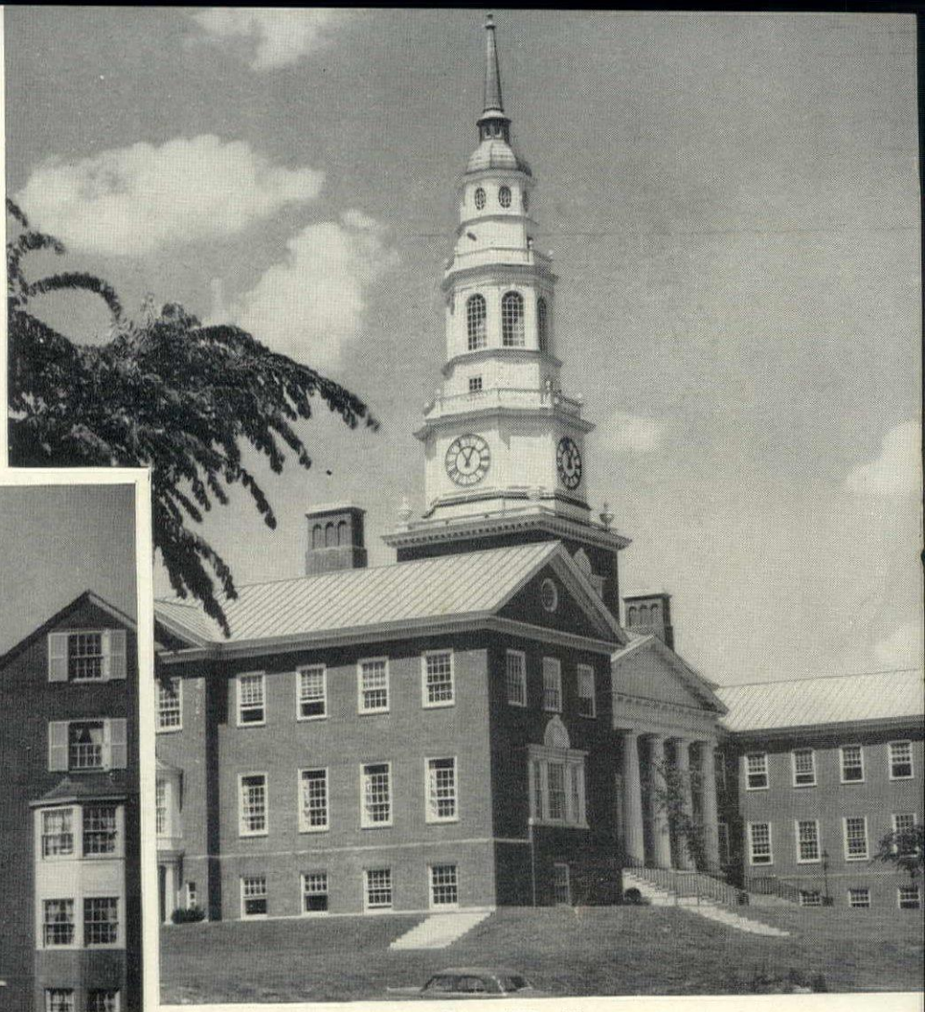
*Reg. U. S. Pat. Off.

M-126

ELJER

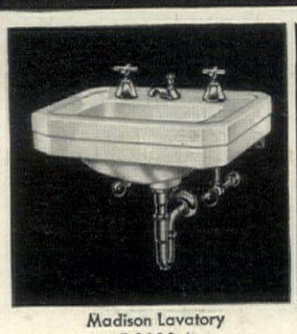
goes to college...





Left, Men's Dormitory *Above,* Miller Library

Architect, Jens Fredrick Larson; *General Contractor and Builder,* Hegeman-Harris Co.; *Plumbing Contractor,* Charles Argast, Inc., all of New York City, N. Y.; *Mechanical Engineer,* Thomas Tash, Hanover, N. H.



Madison Lavatory
E-3290-A



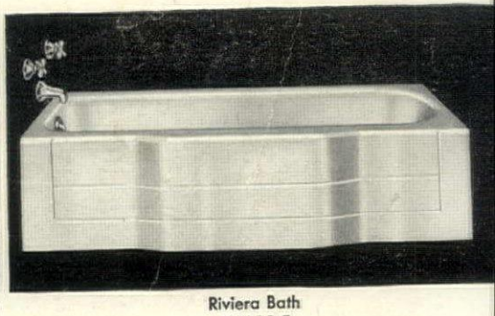
Pedestal Urinal
E-8200-V



Laundry Tray
E-2640-K



Sanus Closet Combination
E-5910-V



Riviera Bath
E-1120-F

ELJER Fixtures and Brass Goods Used 100% in Eleven New Colby College Buildings

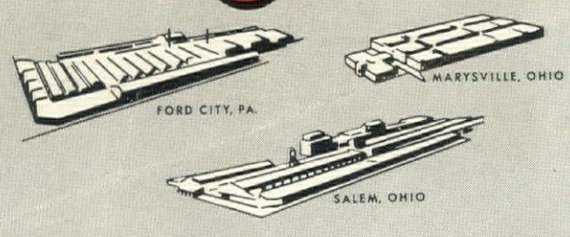
On Mayflower Hill, in Waterville, Maine, 140-year-old Colby College is in the process of building a completely new campus, one which has already become recognized as a model of educational plant planning.

With the vast amount of over-all detailing employed by the architect and builders, it is significant that Eljer Plumbing Fixtures were specified, and have been installed in the Lorimer Chapel, East and West Men's Dormitories, East and West Freshman Dormitories, the Miller Library, Keyes Science Hall, Roberts Memorial Union, the Field House, Goldfine Biology Building, and West Women's Dormitory.

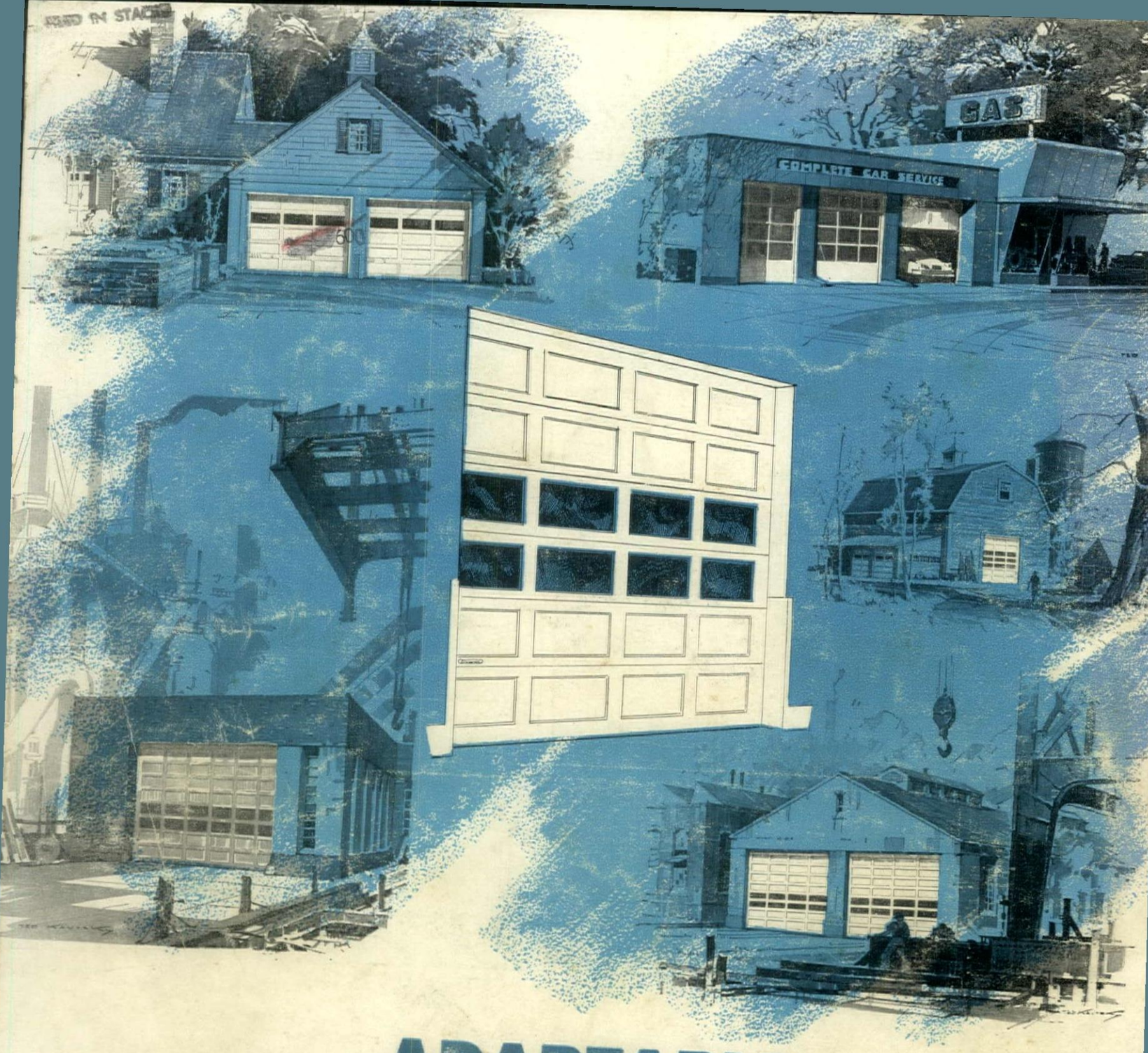
Colby's Mayflower Hill campus stands today in brick and mortar testimony to the skill and craftsmanship of both architect and builders. It also serves as an example of the institutional type of installation for which Eljer Co. has become famous.

For additional information about Eljer Plumbing Fixtures and Fittings, write Eljer Co., Ford City, Pa.

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